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Public Health Implications of Tropical and Imported Diseases*

Strategy against the Global Spread of Disease

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THIS is a public health war. In every theater, the fighting forces of the United Nations and the enemy alike are exposed to diseases of public health importance. In most of our combat areas, epidemic diseases are rife in the native population. Malaria encircles the globe, and is the foremost problem of military medicine in the majority of war theaters. Cholera prevails in India, China, and the Southwest Pacific; dysentery throughout the Tropics. In North Africa, the Near East, and Eastern Europe are the world's great reservoirs of louse-borne typhus. After an absence of many years, Germany acknowledges its presence there. Yellow fever is epidemic in Africa; it exists in jungle form in South America; and the mosquito vector thrives in the United States, the Mediterranean area, India, Burma, the Southwest Pacific. Dengue, borne by the same mosquito, occurs in the same regions. Everywhere in overseas fighting, we are confronted with venereal infections frequently pandemic, and with a high tuberculosis rate.

It is inevitable, therefore, that our fighting men are exposed to extraordinary disease hazards and that many will succumb. In every war of recorded time, disease has caused more military casualties than have battle wounds. This war is no exception.

Battle casualties cease when the fighting stops. Disease casualties continue to take their toll. In the three years after World War I, more people died of starvation and disease than were killed in the four years of fighting. Disease problems no less than the strictly military problems are unprecedented and infinitely complex in this global war. Consider, for example, the mass displacement of population—an estimated 12–15 millions of people in Europe—political and military prisoners, slave labor, and refugees. After the war, nothing will thwart the urge to go home. The more hunger, lowered resistance,

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and epidemics, the more uncontrollable the dispersion toward home. Foci of infection will thereby be scattered into the remotest villages throughout Europe. In this total war, health problems also are total in their nature, affecting total populations.

Our strategy against the spread of disease, therefore, must be global in its scope. It is being developed in three overlapping phases. The *first* is directed toward the protection of our troops and of vulnerable areas while the fighting is on. The *second* deals with the emergency restoration of health conditions in reoccupied zones, through relief of starvation and epidemic control—a prelude to rehabilitation. The *third* evolves into world-wide collaboration for improved health.

From the military point of view, our public health defenses at home, at outlying bases, and in combat zones must parallel military efficiency in the total job of defeating the enemy. The enemy faces the same disease threats to his striking power; therefore, superiority in health protection of our troops is as much a requirement for victory as superiority in forces and supplies. No other military force in the world approaches ours in the proportion or competence of its medical and health components. For this superiority we suffer gladly the privations necessary at home. Yet there is a limit beyond which excellence in military health service defeats its total purpose through deprivation on the production front. Medical and health services in many communities now are below the margin of safety, as you know.

The health of military personnel requires the strengthening of health measures in surrounding civilian areas. This is true abroad no less than at home. Since we are fighting in the tropics and subtropics on a vast scale, we must prevent insect vectors from being transferred to vulnerable areas abroad, where they may hamper military operations, or to home areas where they can gain a foothold and disrupt war production.

Pestilence always has accompanied and followed in the wake of war. Every increase in the amount or speed of intercourse between nations has increased the threat of exotic disease. Air transport has leveled further the barriers of time and space against many epidemic diseases which hitherto have been successfully excluded from vulnerable areas. Much of our foreign air transport now traverses fever- and mosquito-ridden areas. Many air fields are little more than runways hacked out of the jungle, with no opportunity for sanitation. The native laborers are reservoirs of strange infection and the insects are pestilent. Under the pressure of war schedules or actual combat, sickness or an insect vector often becomes a stowaway to the next landing place. Such may have influenced the recent outbreak of dengue in Hawaii, and the recent introduction of the *Anopheles gambiae* and the tsetse fly from Africa into the Western Hemisphere.

As our fighting forces have been dispersed over wider and wider areas, we have seen more clearly the need to organize our defenses in depth to protect the battle front and the home front.

Our first-line defense is the combined effort of the United Nations to protect in so far as is possible their military forces from the health hazards of global warfare. Our second defense is the active and coördinated quarantine barriers being set up by the Army, the Navy, and the Public Health Service. Our own civilian health services constitute our deep defense on the home front. The last is supported by biological and environmental factors here at home which give us the opportunity of confining to local outbreaks any infection which may slip through the lines.

Joint research to forge sharper

weapons has been expanded by the Army, Navy, and Public Health Service as an essential part of our strategy. Against malaria, for example, our weapons are not good. The search for more effective antimalarial drugs is urgent from the military point of view, because environmental control is impossible under combat conditions. Our knowledge of such exotic diseases as filariasis, schistosomiasis, and the leishmaniases is incomplete. These and many other problems of military significance are under constant study.

Last December, the President created the United States of America Typhus Commission, composed of officers of the Army, Navy, Public Health Service, and outside experts, and authorized it to study typhus fever and recommend measures for its control in any area affecting military personnel of the United States. The commission is now working in Africa and the Near East, in preparation for the huge typhus problem which is inevitable when our forces get into eastern or southeastern Europe.

Early in 1943, an Interdepartmental Quarantine Commission was set up to review and recommend changes in current laws and practices designed to prevent wartime spread of disease into this country or between military bases abroad. The commission is composed of medical officers of the Public Health Service, the Army, and the Navy, under the chairmanship of Assistant Surgeon General Dunnahoo. The commission has already completed a preliminary survey of the transmission of disease and disease vectors as a result of military operations, air transport, or surface travel. They are continuing their studies on several lines of communication east and west, and at foreign bases.

We shall have to reorient our quarantine strategy with regard to air transport, since long-range, land-based planes nowadays fly in from distant ports and land deep in the interior. We shall need to set up quarantine stations at inland airports where foreign traffic is heavy, as we already have done at the Washington Airport, now a world air center. As a further check on the rapid dispersion of infectious diseases through the interior, however, airports of entry should be located as near to the coast as possible.

International agreements limit national quarantine measures to the control of smallpox, typhus, plague, cholera, yellow fever, leprosy, anthrax, and psittacosis. Little can be gained from increasing the list, especially if thereby quarantine regulations should be used as a means of setting up trade barriers inimical to post-war economic reconstruction. The perennial problem of quarantine versus commerce is the same now as it was in 1881 when the Secretary of State, in opening the first international health conference held in the United States of America, referred to ". . . this conflict between permanent, free, and open intercourse of trade, . . . with this particular and pressing emergency of the public health." Quarantine, therefore, has been a sieve. It should not become a barrier in war or peace to necessary intercourse between nations. Its basic philosophy expressed in current military terms is that of "the calculated risk."

International barriers should not be set up against all infectious diseases. To do so would put into the hands of unscrupulous health officials punitive weapons against normal commerce. To overcome this tendency, there is general adherence to international conventions which limit quarantine jurisdiction to the most dangerous diseases. In this country we have successfully escaped imported epidemics of nonquarantinable diseases such as measles, dysentery, scarlet fever, and typhoid fever through good internal health de-

fenses, including the operation of interstate quarantine.

Circumstances of war may necessitate strengthening the federal interstate quarantine function, since the diseases which most concern the experts as potential post-war threats are not and should not be subject to national quarantine regulations. The Army and Navy may be relied upon not to release infected personnel until they have received the maximum benefit from modern treatment. However, some of the tropical diseases to which our troops have been exposed are not amenable to perfect medical control, and unpredictable relapses will occur.

Malaria is the outstanding example. Inevitably, malaria cases will be dispersed through the United States by returning troops. Local outbreaks are probable in parts of the country like the Upper Mississippi or the Hudson Valley, which have malaria mosquitoes, but which have been free from infection for many years. However, it is believed that history will repeat itself and that such outbreaks will die out, because, as in the past, the environment is not favorable to perpetuating the infection. But we should accelerate nature's process with mobile control forces to deal with outbreaks in any area. The triumvirate of modern malaria control is the physician, the engineer, and the entomologist. Equipped to analyze a situation from these three approaches, trained to organize effective control, these teams will be available to deal with any emergency outbreak, whether of malaria or other insect-borne disease.

Since the beginning of mobilization, the Public Health Service has maintained a mosquito-free zone around military and war industrial establishments in all malarious areas, building upon the work done during the depression years. As a total result, the Army experienced last year the lowest malaria rate in its history among troops at home bases, although the bulk of them are in the South.

Yellow fever is a serious threat to all areas where the vector is present. The British, the Chinese, the Dutch are no less keenly aware than ourselves of the hazards to the Far East. Consider that one of our most important war air routes skirts areas in South America where yellow fever in the jungle form is endemic. It crosses tropical Africa, where yellow fever has been epidemic for years. And then the jump to India or on to China where teeming millions of people and the ubiquitous vector await only the virus to start a conflagration. One infected mosquito, one infectious case could light the fire of an epidemic far greater than those which flared in the United States during the last century.

Our troops are protected by improved vaccines, but it would be impossible to produce enough in time to protect whole civilian populations. There is not a port in the effective *Aedes* zone of the United States (below the southern boundary of Maryland) which is free of the yellow fever vector. We have begun control work at Miami, but we have a long way to go to equal the performance of Brazil where the yellow fever mosquito has been *eradicated* in every important port, and even in whole states.

As additional territory is conquered by our armed forces, urgent health problems will confront the occupying troops. Starvation and disease will be the two central facts. The control of epidemics will be a herculean task if the enemy wreaks the destruction in every city that he has done in Naples and on the Russian front.

For long months, intensive preparations have been made both by the military and by the Office of Foreign Relief and Rehabilitation to deal with anticipated problems. At the School for Military Government in Charlottes-

ville, for example, officers have been trained in problems of civil government, and the classes include a quota of Public Health Service officers, some of whom are now serving in Italy and North Africa.

Immediately after the OFRRO was created, Governor Lehman appointed a Health Advisory Committee composed of representatives from the government departments concerned and a few experts in international health problems. Coöperation was sought and gladly given by the Rockefeller Foundation and the Milbank Memorial Fund. All available epidemic and medical intelligence regarding each country has been pooled. Studies have been made of one country after another, embracing data on pre-war disease prevalence and distribution, sanitary and medical organization, number, size, and location of hospitals, health centers, laboratories, etc., the types of water supplies and methods of purification in each city, the estimated needs for medical and sanitary supplies, the number and location of camps for prisoners of war and political prisoners, the volume and nationality of slave labor, and estimates of the size and composition of the public health forces which will be needed.

When a country is reoccupied, there is an initial stage of military government. It may be assumed that as soon as the military situation permits, the government, while continuing under the general supervision of the theater commander, will be turned over to civilian auspices.

It has been announced that the United Nations and the nations associated with them in the war have been invited to sign an agreement in Washington on November 9, creating a United Nations Relief and Rehabilitation Administration. This will be the international agency through which public health control and other phases of relief and rehabilitation will be carried on. In the proposed agreement, the second objective is to aid in the prevention of pestilence and in the recovery of the health of the people.

In any liberated country the basic policy will be to reconstruct the national health service as soon as possible. Outside aid obviously will be needed, but such aid will attempt from the beginning to work with and through the official national health departments and their local branches.

There has been joint planning between this country and other United Nations in connection with the problems of each occupied and enemy nation. In particular, representatives of the Inter-Allied Committee on Relief in London and our group on this side have exchanged full information concerning general plans. We have agreed upon standard lists and packages of medical and health supplies, and upon a procurement program to insure their availability. We have similarly agreed upon the size and composition of the public health and medical teams which will be needed. One unpredictable element in our planning is the future course of military events in a particular area—the amount of destruction and the further displacement of populations which will occur before final victory. It is gratifying to report that there is joint staff work and joint operational plans in the war against disease just as there is on global military strategy and operations.

Attention should be drawn also to the progress which has been made during the war in Pan American coöperation for stronger hemispheric health defense. This is being done through the Pan American Sanitary Bureau and through the Coördinator of Inter-American Affairs in coöperation with the health departments of the respective countries.

Of great importance, too, in future

global strategy against disease is the United Nations Organization on Food and Agriculture which will be set up following the recommendations of the Hot Springs Conference. In this organization, the improvement of human nutrition is a first objective. This international office of nutrition will be closely related on the one hand to health, and on the other, to agriculture.

Let me attempt to focus all I have said up to now and bring the several parts into relation with each other. We are faced with unprecedented health problems in this global war. On many sectors we have United Nations teamwork in dealing with wartime health problems. Further teamwork is assured especially in nutrition and in relief and rehabilitation.

But we need to look ahead a step further. We should begin now to plan with our allies a permanent international health organization ultimately to become world-wide in scope. After the war the needs for such an organization will be greater than ever before. Air transportation will have broken down the barriers of time and distance. As a result of two world wars, we have learned that we cannot remain at peace with the rest of the world in flames. Similarly, I think, we cannot remain free from epidemic diseases if they rage in other lands. Moreover, improvement in health is the first step which needs to be assured in the backward nations if they are to attain a higher economic development.

International public health measures, therefore, should become the spearhead for peaceful international collaboration. Having learned to work and fight together to defeat the common enemy, we need equally to concert our efforts to the purposes of peace. The science of public health is the instrument through which much can be done to heal the wounds of war and to bring to mankind everywhere a new standard of healthful living which will surpass all previous human experience.

Public Health Implications of Tropical and Imported Diseases*

Yellow Fever and Typhus and the Possibility of Their Introduction into the United States

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THE American health officer in this time of war is facing increased responsibilities with a diminished expert staff. He might possibly be interested in a lurid description of the havoc inflicted by exotic virus and rickettsial diseases on armies and populations in previous wars and in foreign lands, but I feel certain that he would prefer that I proceed at once to discuss the anticipated risk of the introduction of such diseases into the United States and the practical precautions that should be taken.

As for the common virus diseases, most of them are already widespread within our boundaries, and therefore outside the subject of this symposium. Smallpox, for example, is present where the laws requiring vaccination are inadequate or not enforced, and it is inconceivable that a partly vaccinated population could be endangered by the return of fully vaccinated soldiers from foreign countries. The occasional introduction of smallpox by civilians from abroad or its transfer from one state to another may occur in peace as well as in war, and serves to reveal which communities are neglecting to keep themselves immune.

The pandemic of influenza during the first world war usually comes strongly to mind when war-engendered disease of virus origin is mentioned. There is no evidence to suggest that the appearance of this world-wide scourge had any relation to the war except coincidence. There is also no proof that the pandemic was due to a virus, as are influenzas A and B, although it would seem probable. It is hard to believe that any methods other than specific active immunization could protect adequately against the highly contagious influenzas. The most promising of the present vaccination methods still await field trial in the presence of an epidemic. We earnestly hope that we shall be spared the next visitation until the strain of this war on the people and their health departments is over and methods for producing active immunization against the known virus influenzas, and possibly applicable to pandemic influenza, have been made more effective and their results more lasting. In the meantime the state health departments can at least develop laboratory service in the field of virus diseases, as I have previously advocated before this organization,[1] and thereby become better prepared to assist in the

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diagnosis of known virus diseases and to investigate the unknown.

YELLOW FEVER

Of the exotic virus diseases there is only one which needs special consideration—yellow fever. This tropical disease has been tricky and is still full of surprises. Time and again it has entered parts of the United States and has spread devastation until checked by cold weather. Its last visit was as recent as 1905 when it came to New Orleans, but nevertheless there is a tendency for health officers and the people generally to assume that the disease is a historic curiosity so far as this country is concerned, and will never return. Is it possible that the war situation will increase the risk of another introduction?

There seems to be no chance that smoldering infection will be fanned into flaming epidemics by the sending of our military personnel into the endemic areas of Africa and South America, or that members of the armed forces, returning while in the incubation period, will introduce the virus, inasmuch as all of those entering endemic areas are vaccinated against yellow fever. There are striking historical examples of extreme losses of men in military expeditions of non-immunes into the tropics, and yellow fever along with malaria and typhoid wrought havoc with our forces in Cuba during the Spanish-American war and the following period of military occupation. Fortunately a great mass of accurate and useful knowledge of yellow fever has been built up and published since then, beginning with the confirmation of Finlay's mosquito hypothesis by the United States Army Board in Cuba and leading up in steps to the discovery of the existence of jungle yellow fever, involving forest animals and new mosquito vectors,[2] and also to the devising and wide application of an effective method of vaccination.[3]

The discovery of jungle yellow fever put an increased emphasis on vaccination as a means of prevention, for the effective methods against the vector of the historic urban yellow fever, the domestic mosquito *Aedes aegypti*, could not be applied in the vast and almost uninhabited tropical forest. Accordingly vaccination is the sole reliance in fighting epidemic and endemic jungle yellow fever, and literally millions of persons have already been vaccinated. In some cases the purpose of vaccination is to protect travelers or military forces against expected exposure, and sometimes it is to stem the spread of an actual epidemic, but increasingly the intent is to immunize systematically as many inhabitants as possible in jungle yellow fever areas and especially around travel routes. This systematic vaccination prevents human infections which might occasionally introduce the disease into aegypti-infested towns and cause urban yellow fever capable of spreading through the channels of travel and trade. Barrier vaccination has also been practised. This consists in immunizing all the inhabitants in a zone between an area of jungle yellow fever and an uninfected region. The people around certain critical traffic points or seaports have likewise been vaccinated to lessen risks of spreading yellow fever. The urgent need for immunization of troops and civilians going to the endemic areas of Africa was emphasized in 1940 when the largest yellow fever epidemic ever recorded in that continent, with over 15,000 cases, occurred in natives of the Nuba Mountains, not very far from active theaters of war.[4]

If so much dependence is placed on vaccination, it is important to know the degree and duration of the immunity and the safety of the method. The vaccine now in use is essentially a strain of living yellow fever virus, derived from the original virulent Asibi strain from Africa and modified by prolonged

passage through tissue cultures. This strain, called 17D, has lost most of its viscerotropic and neurotropic virulence, while retaining a high degree of antigenicity. There are similarities between this vaccine and smallpox vaccine in efficiency and safety and probably in the duration of the immunity. While the degree of immunity, as measured by titration of antibody in the blood by means of mouse protection tests, tends to run down slowly with the passage of years, the recent Brazilian studies of Fox and Cabral,[5] based on especially sensitive protection tests, and the field observations of Bugher[6] in Colombia make it clear that most vaccinated persons remain immune for at least four years. This is not surprising considering the life-long immunity produced by the disease itself.

As for safety, the vaccine, made with a constant dried seed-virus tested by long experience and without the addition of any normal human serum, seems to be as innocuous as can be expected of any product containing living virus. Formerly, when a small quantity of human serum was being added in manufacture to help preserve the virus, a form of hepatitis resembling so-called catarrhal jaundice or common infective hepatitis appeared in many persons receiving certain lots of vaccine. In view of the reported appearance of the same phenomenon after injections of convalescent serum and transfusions[7] it was concluded that this hepatitis was in all probability due to the chance introduction of an icterogenic agent, probably a virus, encountered occasionally in human serum. Fortunately it was found possible to substitute added chick embryo juice for the serum, and at present serum is entirely excluded from the vaccine in all the laboratories manufacturing it. Millions of doses of serum-free vaccine have been issued during the past year without reports of jaundice attributable to the vaccine or other symptoms except the occasional malaise and slight rise of temperature frequently observed on the 6th or 7th day. This would seem to be the normal reaction.

The vaccine is not manufactured commercially anywhere, nor is it sent out to physicians. It is prepared in the United States in laboratories of the National Institute of Health in Montana and of the International Health Division of The Rockefeller Foundation in New York. Officers of the U. S. Public Health Service administer it without charge at a number of service stations to civilians who anticipate exposure in endemic areas. Distribution through ordinary channels is impracticable as there would be serious risk that the virus would die out and the vaccine become inert. The dried material must be kept cold and the redissolved vaccine must be injected immediately in accordance with the directions.

The most serious risk of introducing yellow fever is through air travel, and much is being done to control this situation. With travel time as a measure, the United States has been moved much nearer to the endemic areas in recent years and it would be quite possible for a person to be infected in the interior of Colombia, for example, and to reach the United States within the incubation period, or for an infected mosquito to make the trip. Geographically, yellow fever is not as near as it was early in this century, for recent surveys show that it is now absent from Mexico, Central America north of the Panama Canal, and the West Indies, although the infection is still present in the interior of Colombia and Venezuela and probably in Panama near Colombia, to mention only the nearest countries.[8, 9, 10]

The risk of bringing yellow fever in has been greatly reduced in several ways. Travelers visiting infected re-

gions have been encouraged to get themselves vaccinated and to carry certificates which relieve them of certain restrictions on non-immunes. Passengers arriving from endemic areas are inspected by quarantine officers and their temperatures are taken. Persons showing elevation of temperature or other evidence of illness are detained until a diagnosis is made. Those who are well and are non-immunes, but who have possibly been exposed within a few days are kept under surveillance by the health authorities at the places of destination for the remainder of the incubation period of 6 days, unless the destination is north of any region in which aegypti might breed. As for mosquitoes, all airplanes from suspected areas are disinsectized by spraying for the purpose of killing off all incoming insects, whether infected or not.

The remarks about our newest weapon against yellow fever do not imply that vaccination is a short cut in control which makes anti-mosquito work unnecessary. On the contrary, aegypti control remains the method of choice for cities and other places in the tropics and subtropics where this mosquito has become established. Aegypti is especially vulnerable, as it is highly domestic and accessible and not so widely distributed as is commonly supposed. This makes it possible for health departments to organize a systematic attack on the mosquito in its larval stages and so hasten this dangerous insect on the way to local extermination. The only limits are money, trained men, and the willingness of the public to allow complete periodic inspection of houses and premises. Most effective methods have been worked out in Brazil and applied with such success that in most cities and in many large areas *Aedes aegypti* can no longer be found. The methods used are being published in detail by Soper, Wilson, Servulo Lima, and Antunes,[11] and their report will be made available by The Rockefeller Foundation to health officers specially interested. It was the successes in aegypti extermination that gave Soper and Wilson the confidence to undertake the complete extermination of *Anopheles gambiae* in Brazil.[12]

The control of jungle yellow fever in foreign endemic areas through vaccination and the elimination of the mosquito vector from seaports are really our first lines of defense, and we owe a debt of gratitude to those countries which maintain it. The quarantine precautions at our borders, including the disinsectization of aircraft, and the immunization of travelers and airplane crews may be regarded as the second line. The third line of defense, and the one for which the responsibility rests on the local civilian health authorities, is the extermination of the domestic mosquito *Aedes aegypti* wherever it exists in the United States. General vaccination will be unnecessary in our civilian communities, since the measures here recommended are fully adequate. The suppression of aegypti can keep our communities non-infectible by yellow fever and also by that other aegypti-transmitted virus disease, dengue. Where dengue appears in our southern cities as occasional surprise epidemics, there yellow fever could also make its attack. Mosquito control is now well enough understood for it to seem inexcusable for communities to permit dengue outbreaks, just as in these times the presence of smallpox is looked upon as a sanitary disgrace.

TYPHUS FEVER

Of the rickettsial diseases, louse-borne typhus fever is the only one with a well earned reputation for spreading illness and death through troops and civilians in time of war. We can pass over the milder flea-borne typhus variant known as murine typhus, for it has long been endemic in the south-

eastern and southern states, where the scattered human cases are secondary to epizoötics in rats. It is perhaps not impossible that, under war conditions far worse than any envisaged for the United States in the present conflict, this existing endemic human infection might become louse-borne and epidemic. Likewise we can disregard in this discussion the rickettsial tick-borne Rocky Mountain spotted fever, the very name of which is derived from its principal location in this country. Another disease caused by rickettsiae deserves a word in passing. The mite-borne scrub typhus or tsutsugamushi disease of the Far East has a geographic distribution which includes present theaters of war, but its introduction by returning troops and its establishment here with a suitable vector seem unlikely, if not impossible. More needs to be known of this scrub typhus situation and the possibilities.

Unlike yellow fever, louse-borne typhus is not inhibited by cold weather and is most prevalent in late winter and spring. The vector concerned is the body louse, and the scarcity of this insect in the United States under present conditions is one of the reasons for a feeling of security against any serious invasion by typhus fever. Nevertheless, there are in our large cities vagabonds and people living in poverty and crowded quarters who are louse-infested and necessitate constant vigilance to prevent the introduction of lice into cheap rooming houses and public hospitals. In the past the prevalence of body lice has been revealed on various occasions by the presence of typhus fever, as in certain labor camps to be mentioned later and in an Indian reservation.[13] The head louse is still common but it plays at most only a minor rôle in typhus transmission.

The introduction of louse-borne typhus fever by returning troops would seem improbable. Even if louse-infestation did become prevalent in overseas units of the armed forces as in the last World War, a happening which we are disinclined to predict in the light of the improved methods of delousing, and if some of the troops, although vaccinated, became infected abroad with typhus, the return of soldiers ill with typhus along with the vectors, in spite of the vigilance of the military medical officers and the quarantine authorities, is almost unthinkable.

There are, however, other ways in which louse-borne typhus can enter this country in time of war and spread as far as the local louse-infestation will permit. In fact, a case of the sort was observed in the Southwest in 1916, when I had opportunity to follow the events as Secretary of the California State Board of Health. The episode had a double war relation. Civil war in Mexico had brought widespread poverty and distress and had prepared the ground for the typhus epidemics which flourished in the highland cities and spread northward to the border states, involving both soldiers and civilians. To escape these conditions many of the poorer people emigrated to the United States, principally at El Paso, Del Rio and Laredo in Texas. On our side of the border the first World War was already having its effect, although the country had not yet formally entered the conflict. Unskilled labor was scarce and the railroads found that the Mexican peons were the only available supply. Laborers were recruited by employment agencies among the refugees, chiefly in El Paso, and were shipped with their typhus and their lice in many directions to primitive and insanitary labor camps along the railroad tracks. Scattered outbreaks appeared where these laborers went in Arizona, Colorado, California, Iowa, Illinois, and Central and Eastern Texas.[14, 15] Some of the cases of typhus reported during 1916 and 1917

from New Mexico, Utah, Indiana, and Kansas may also have been produced in the same way. In Kansas the 2 cases reported were in a Mexican patient and a nurse in a railroad hospital.

In California typhus fever began to appear in the spring of 1916 in Mexican railroad section hands who had recently arrived. Although typhus fever had previously been practically unknown in the state, 31 cases were reported from June 1, 1916, to March 1, 1917, with 4 deaths. Of the first 26 cases investigated all except 2 were in railway employees, and all but 5 were in arrivals from Mexico. These 5 were classed as secondary,[14] but the relationship to cases in Mexicans was not clear in every instance. An investigation of 44 of the camps in October showed an infestation with body lice of 35 per cent and with head lice of 60 per cent. The outbreaks were quickly controlled and the influx of typhus was checked by the detention and delousing of laborers entering the state in temporary observation camps, by sanitation of the section camps, with improvement of bathing facilities, and by the systematic delousing of infested laborers at the Mexican border by the U. S. Public Health Service and within the state by the railroads under regulations of the State Board of Health. Since then, however, typhus fever, now classed as endemic and probably of the flea-borne murine type, although the 1916 outbreak was undoubtedly louse-borne, has been continuously present in California. There were waves of increased incidence from 1921 to 1924 and from 1936 to 1942, and according to Halverson[17] the total number of cases up to 1942 reached 229.

The experience in Iowa was reported by Boyd.[18] A louse-infested Mexican laborer who had been brought from El Paso about 7 days before and who had been out of Mexico for 2 months, was admitted to the railroad hospital in Fort Madison. From this patient typhus fever was contracted by the doctor who examined him, the nurse who took charge of his clothing, the male nurse who undressed and bathed him, a Mexican laborer who visited him before the diagnosis was made, and another Mexican laborer who shared his hospital room. A male nurse who was present when the last mentioned patient was deloused also contracted the disease. The 8th and last in this series of typhus cases was in a Mexican laborer admitted to the same hospital from Surrey, Ill., where he had been in contact with another Mexican laborer who had been in the Fort Madison hospital while the previous cases were there.

The present situation in the United States with respect to the risks of typhus introduction is quite different from the one in 1916. Mexico is free from civil war and there are no extensive typhus epidemics in that country, although the louse-borne disease is present. In this country, however, there are labor shortages on account of the war, much movement of people, and acute housing deficiency and crowding around war plants. The protection of civilians against introduced louse-borne typhus requires, as in the case of yellow fever, that every community be kept non-infectible. General vaccination of population groups would not be justified with the present low risk of exposure and would be less dependable than louse control. Adequate insurance against typhus epidemics must depend primarily on the destruction of the vector.

If a domestic mosquito like *Aedes aegypti* can be locally exterminated by organized inspection and the destruction of larvae, how much simpler it would be to exterminate the body louse, which is more than domestic—even strictly personal. The health officer with a louse infestation problem in a

civilian population needs effective methods for systematic inspection to establish infestation rates and check on results and also some simple and inexpensive way to free clothing of lice. Such methods are being devised and tried out and should in due time become generally available. There are two important elements in the methods giving the most promise for civilian use. They are, first, a highly insecticidal powder which is not toxic when in long contact with the human skin and, second, a system and organization for seeing that the powder is thoroughly applied to the clothing at regular intervals and for keeping close track of the degree of infestation. Satisfactory results have been obtained by Davis and Wheeler [19] with certain of the newer powders in delousing volunteers in a road builders' camp in New Hampshire after artificial infestation. A field study in five naturally infested Mexican villages was carried out by Davis, Malo Juvera, and Hernandez Lira [20] for the purpose of finding methods for ridding an entire town of lice cheaply, rapidly, and with a minimum of equipment. Powders were used to kill lice in the clothes, and a lotion to destroy those in the hair. In one of the towns typhus was present. Following treatment the disease disappeared and the number of persons with lice approached zero in the second week. It was evident that administrative measures and insecticides were at hand which, after perfection of details, could be depended upon by the health organization to keep people free of lice and consequently non-infectible by louse-borne typhus fever. It seems now that periodic disinfestation with elaborate equipment followed by prompt reinfestation may soon give way to effective methods for keeping the community continuously free of lice by locally exterminating them and by the same measures making reinfestation impossible.

The described episode during the last World War indicates that all that protected us from a widespread epidemic of typhus fever was the general freedom of the public from body lice. As a rule the disease showed no tendency to spread beyond the immediate contacts of the persons introducing it into the communities. There is no reason to believe that lousiness is any more prevalent now than then or that there is serious danger that anticipated war conditions here will bring about a great increase in these insects. Nevertheless, as a precaution, it is incumbent on health officials to search out and remove the few existing foci and thus give protection against the spread of epidemics of typhus either from introduced louse-borne disease or from the existing endemic foci of the murine variety.

The health officer is now in a position to remove all danger of the invasion of his community by yellow fever or louse-borne typhus by keeping it non-infectible in peace time and even during the risks and difficulties imposed by war.

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Public Health Implications of Tropical and Imported Diseases*

Imported Malaria

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MALARIA has been by far the major medical problem encountered by the Army overseas. The campaigns in New Guinea, the Solomons, and southern Italy are being fought in some of the most malarious regions of the world. In addition, many troops are stationed in or travel through such malarious regions as tropical America, equatorial Africa and India. As a consequence, large numbers of our troops are being infected with malaria. Even with proper treatment relapses of the disease are frequent and periods of latency may persist for months. In many malarious areas troops are given suppressive treatment with atabrine. In some of these individuals, initial clinical attacks may not appear until many weeks after medication is stopped. It appears inevitable that large numbers of our troops will be returned to this country infected with malaria. During the current year approximately 65 per cent of the cases of malaria reported in the Army in this country were acquired abroad. The number of cases in men returned from overseas may be expected to increase as the war progresses and, of course, will be greatly multiplied when the fighting ends and our armies are brought home to be demobilized.

The question arises as to what influence this influx of cases from abroad will have upon the malaria situation in this country. In the past the area of endemic malaria extended widely through the northern states. Although in recent years the area of endemicity has shrunk greatly, the potentiality for the re-introduction of the disease still exists in many parts of the country. Potential anopheline vectors of malaria are to be found in every state of the Union. In some areas, at present malaria-free, *Anopheles quadrimaculatus* may be quite numerous during the summer season. The chief problems of public health concern related to the return of cases of malaria from abroad may be summarized as:

1. The possibility of establishing new endemic foci of the disease in areas now free from malaria.
2. The introduction of new strains of the parasite in regions where malaria is already present, and a resultant increase in the amount of malaria in these areas.
3. Prompt recognition and proper treatment of relapses in soldiers after they have returned home on sick leave or furlough or have been discharged from the Army.

The first of these problems, the possible establishment of new endemic foci, has attracted the most attention. Exaggerated statements predicting dire

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consequences have occasionally been published in the public press. Suggestions have been offered that troops returned from malarious areas should be segregated. In the North the point of view is that such troops should not be sent to northern states because these sections—malarious 100 years ago—are now free from malaria and it should not be introduced again. In the South the opinion prevails that infected troops should not be brought to southern states because in this part of the country conditions are most favorable for the spread of the disease. There is some merit in both points of view, but question may be raised as to whether either is really necessary.

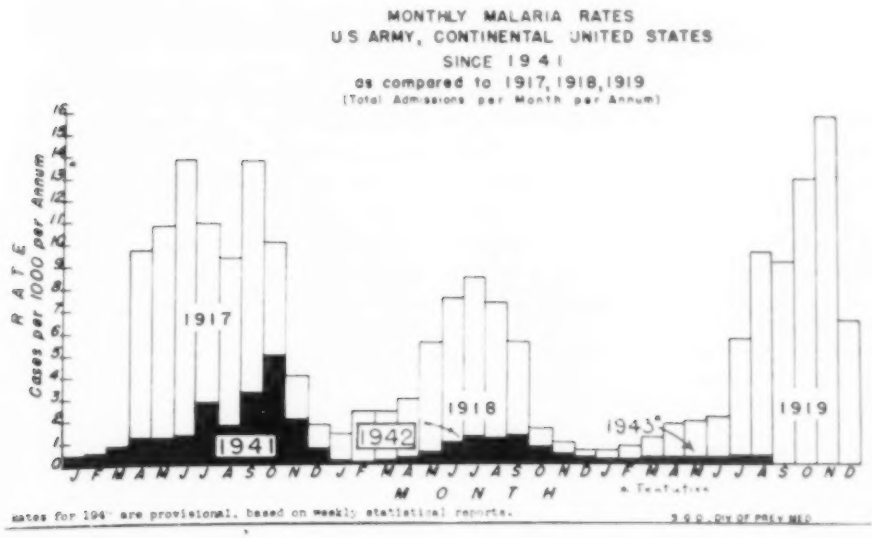
The practical difficulties of segregation are, of course, obvious. At present there are no certain criteria by which a case of malaria may be pronounced completely cured. Relapses may occur after many months of latency. It would certainly be impractical to attempt to deny furlough to returned soldiers for any such length of time.

Since the discovery of the mosquito transmission of malaria at the turn of the century, it has been demonstrated repeatedly that the most fruitful methods of malaria control are those directed against the mosquito vector. Methods designed to control the human reservoir of the disease are of decidedly lesser importance. In this country the accepted line of attack against malaria has been that against the mosquito vector. No attempt has been made to control the movement of human carriers of the disease. Up until the last decade thousands of infected immigrants from southern Europe were allowed to enter this country and to settle at will. Seasonal migration of southern agricultural workers to northern states has been encouraged. No untoward consequences in the malaria situation have resulted from this policy. There seems no good reason to take a different attitude toward soldiers who may be carriers.

Three years ago when the country began to rearm, steps were taken to deal with malaria at the large training camps in the southern states. It was decided that the Army would conduct mosquito control within the boundaries of military reservations and that the U. S. Public Health Service would carry out control measures, when necessary, in a mile-wide zone surrounding the reservations. This plan was originally instituted to protect soldiers at military camps from acquiring malaria from civilians. But these precautions can also work the other way around—to help prevent spread of malaria from soldiers to civilians. For instance, certain Army general hospitals in malaria-free areas have recently received considerable numbers of cases of malaria from abroad. Concern was felt regarding the possible spread of the disease to surrounding communities. The organization for the Control of Malaria in War Areas, of the U. S. Public Health Service, has made mosquito surveys at such hospitals and has instituted control measures when indicated. Since many cases of relapsing malaria have occurred among prisoners of war, the same precautions are being taken in respect to internment camps. The effectiveness of control among troops in the continental United States is well illustrated by a comparison of the malaria rates in this war with those of the last war (Figure 1).

As long as soldiers remain under military control there should be slight chance of spread of malaria to civilian communities. The men live in well sanitated camps. When sick, they receive prompt medical attention. Proper screening of hospitals should prevent them from being bitten by mosquitoes during periods when gametocytes are most numerous in the blood.

FIGURE 1


MONTHLY MALARIA RATES
U.S. ARMY, CONTINENTAL UNITED STATES
SINCE 1941
as compared to 1917, 1918, 1919
(Total Admissions per Month per Annum)
RATE
Cases per 1000 per Annum
1917
1941
1942
1918
1943*
1919
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
M O N T H
* Tentative
Rates for 194- are provisional, based on weekly statistical reports.
O.G.O. Div. OF PREV. MED.

The chief problem arises after soldiers have been discharged from the Army or return home on sick leave or furlough. When relapse cases occur in communities where there are anopheline mosquitoes these individuals may be a source of spread to others. It is well to consider how serious this danger is apt to be.

Outbreaks of malaria have occurred from time to time in nonendemic areas in the northern United States. In recent years there have been such outbreaks in southern Minnesota, eastern Iowa, northern Ohio, and in Camden, N. J. In the summer of 1943, an outbreak of 53 cases occurred at a small town in Illinois. The characteristics of these outbreaks are much the same. They have involved comparatively few cases, they have not tended to spread, and often have subsided without antimosquito measures. Unlike dengue, malaria does not tend to occur as an explosive epidemic. Even in localities where conditions are favorable for spread, the warning given by prompt recognition of early cases ought to allow the institution of control measures to prevent an extensive epidemic. It would appear reasonably certain that prompt action to control *Anopheles* mosquitoes will be sufficient to prevent serious trouble from any new foci of malaria which may occur. Where local authorities do not have the personnel, supplies, or equipment to conduct antimosquito work, the U. S. Public Health Service with its special organization for malaria control is prepared to give immediate help when asked to do so by the state department of health.

The second main problem to be considered is the introduction of new strains of malarial parasites in the present areas of endemicity. Undoubtedly this will happen. It is well known that inhabitants of endemic malarial regions acquire immunity to local strains but have little or no immunity against new strains introduced from other regions. The most feasible solution for this problem would seem to be an intensification of mosquito control

in the known endemic regions in this country. This procedure has the advantage of helping to reduce the amount of malaria already present, as well as to guard against any danger from the introduction of new strains. During the past few years malaria rates in the South have been the lowest ever recorded. Special efforts for mosquito control at this time might reasonably be expected to decrease and perhaps eliminate many areas of endemicity.

Another aspect of the general problem is the possibility that new strains of malaria introduced might be more virulent than those already present in this country. Although differences in virulence may occur, they apparently are not of sufficient magnitude to be of great significance. In recorded epidemics of malaria it has almost always been some change in the mosquito population that has been responsible. For example, in Brazil some years ago it was the introduction of a new vector, *Anopheles gambiae*, which is a more dangerous carrier than the species of anophelines normally present. In the Ceylon epidemic ten years ago it was the exceptionally great increase in the number of anophelines already present.

Over 90 per cent of the relapsing cases of malaria among returned troops are of the *vivax*, or tertian type. This species of parasite is much less apt to produce malignant infections than is *Plasmodium falciparum*, the subtertian or estivo-autumnal parasite which predominates in the tropics. Although it is more difficult to effect a permanent cure of *P. vivax* infections, this species can be considered less dangerous than *P. falciparum* as far as introduction into this country is concerned. In the past the most serious epidemics of malaria have always been caused by the *falciparum* parasite.

Probably the most important problem connected with the return of infected troops has to do with the individual soldier himself. Will there always be prompt recognition of malaria relapses in soldiers after they have returned to their home communities? In many sections of the North, physicians are not familiar with malaria, especially the estivo-autumnal type caused by *Plasmodium falciparum*. Failure to make a prompt diagnosis may be a serious matter in cases of malignant malaria. Prompt diagnosis of malaria cases is not only important to the patient but is also important for the timely institution of control measures if outbreaks of malaria should occur.

A program of education is needed to give practising physicians better knowledge of the diagnosis and treatment of malaria and other tropical diseases. Laboratory workers in many places require greater experience in the recognition of malaria parasites, and especially need training in the use of the thick film technic of diagnosis. Programs of special lectures and symposia on tropical medicine arranged by state and county medical societies will serve a useful purpose. Instructional articles in society journals, especially those local journals which usually reach every doctor in the community, may also be a helpful means of education. Many of the doctors now serving in our armed forces are acquiring extensive experience with tropical diseases. The return of these doctors to their home communities ought to exert a favorable influence on the practice of tropical medicine in this country.

DISCUSSION

During 1943, the majority of troops coming back to this country with malaria have been returned as patients. Most of them remain in military service. Comparatively few are permanently discharged. As already pointed out, the chief danger of spread of malaria from soldiers is after they have returned home. The time of the greatest hazard

will not come until after general demobilization. It may be expected that the demobilization of large-sized units will require a certain amount of time, some weeks at least. This will allow discovery of a considerable percentages of relapsing cases of malaria, particularly among those who have recently been taking suppressive treatment. It is possible that a serological test, such as the complement-fixation test, may be developed to the point where it can be profitably employed to screen out infected individuals who would be subject to relapse If this is done, however, the question would still remain as to how long these individuals should be kept under surveillance. At present there is no drug which is effective in curing latent cases. The discovery of such a drug would, of course, greatly simplify the whole problem.

Both the Army and the Navy are fully aware of their responsibilities in helping to prevent the spread of malaria by returning military personnel. Both services are maintaining close cooperation with the U. S. Public Health Service in considering proper means for dealing with the problem.

SUMMARY

Large numbers of troops returned from overseas are infected with malaria. At present more than 90 per cent of cases are relapses of the *vivax*, or tertian type. Although there is a hazard of the establishment of new foci of malaria in sections of the country now free from the disease the chances of serious consequences from such introduction are not considered very great. Prompt antimosquito measures should bring about rapid control of possible outbreaks. Intensification of anopheline mosquito control is indicated in the present endemic areas in this country to lessen the hazard from the introduction of new strains of malarial parasites. The most important problem connected with the return of military personnel infected with malaria is to insure proper diagnosis and treatment of the relapses which may occur after the service men have returned to their home communities.

Public Health Implications of Tropical and Imported Diseases*

Public Health Aspects of Certain Other Diseases to Which Our Military Forces May Be Exposed

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THE title of this paper is purposely vague in order to afford an opportunity for a brief but broad survey of the diseases to which our military forces may be exposed in the world-wide conflict in which they are engaged. The world picture of the present distribution of our forces shows that they are in contact with native populations and pathogenic fauna and flora from the Arctic through the tropics of both hemispheres, and to the south temperate zone of the eastern hemisphere. Furthermore, the massing of large bodies of men in close contact with each other favors the spread among them of infections acquired from native populations.

The preceding papers in this symposium have dealt with three of the most important diseases to which our military forces are or may be exposed. It is the province of this paper to present briefly the degree of danger of importation of other so-called tropical diseases and parasitic infections, and the likelihood of their spreading and becoming endemic in this country. The chances of introduction and establishment of exotic diseases depends upon several factors. Acute diseases having a relatively short period of communicability are much less likely to be introduced than diseases of a chronic nature or long incubation period. Diseases requiring a specific intermediate host may be introduced but cannot become endemic unless favorable intermediate hosts are present or are introduced and become established. Carriers of cosmopolitan diseases may attain a high incidence in large bodies of troops and cause an increased incidence when demobilization brings them in contact with our civilian population. It is conceivable that strains of certain microorganisms with a higher degree of pathogenicity acquired abroad might produce more severe disease in the civilian population if transmission occurs. A few diseases already endemic in this country in localized areas may become more widely distributed by the dispersal of troops from the endemic areas to their homes.

From these generalities let us first consider the diseases of high incidence in other parts of the world which by their nature are least likely to present public health problems in this country. The acute diseases in this group beside those already considered in this symposium are plague, cholera, dengue fever, and phlebotomus fever. We already have a plague problem in this country in the wild rodents of the

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western states which is of considerable concern to our public health authorities, but the war should have little effect on this problem. We have a moderately protective vaccine for use in our forces which may be exposed to the disease abroad, and there should not be any new introduction of infected rats to port cities unless some disaster breaks down our highly efficient inspection of ships.

We also have a moderately effective vaccine against cholera, which will be used in the event of probable exposure of military personnel. With the advance of our forces into the endemic area of Burma, where the bombing of cities and the retreat of the enemy may lead to native epidemics, cases may occur in our advancing troops, and it is conceivable but improbable that a few carriers of the vibrio might harbor it until they return to this country. Such a possibility is mentioned only to keep it in mind.

Dengue fever is endemic not only in the eastern hemisphere but in the American tropics. It may cause disabling epidemics in the armed forces to the detriment of military progress. Owing to its short period of communicability it will probably be introduced again into the United States only from nearby Latin America. The threat of future epidemics in our southern states will not be removed until we accomplish the eradication of the mosquito vector, *Aedes aegypti*, as our neighbors in Brazil have done.

Phlebotomus fever, another disabling disease of very short duration, is not likely to be introduced into this country because the phlebotomus fly occurs here in only a few limited areas, and its breeding habits and short range of flight make the importation of new species a practical impossibility.

The chronic diseases which are not now endemic in this country or are present only in limited areas, and which are not likely to spread or become endemic, include a wide range of bacterial, spirochetal, protozoan and helminth infections.

Leprosy, endemic in restricted areas of Louisiana, Texas, and Florida, still presents a minor epidemiological problem, but probably will never spread beyond its present confines. A few infections may be expected to occur in individuals who come into unduly intimate contact with natives in the Orient, and these may develop clinical manifestations years after they return home. Past experience indicates that such cases will not give rise to others in this country.

Yaws, another disease transmitted by intimate contact, should not be expected to appear in our military forces, but if it does it will undoubtedly be recognized and cured where it occurs.

The chronic protozoan diseases, aside from malaria and amebiasis, are caused by the blood flagellates—Leishmania and the trypanosomes. The leishmanias are transmitted by phlebotomus flies. The visceral disease, kala-azar, is endemic in the Mediterranean littoral, the Sudan, northeastern India, northern China, and northeastern Brazil. The Old World cutaneous form is endemic in northern Africa and the Near East as far as northwestern India. The New World cutaneous form is endemic in the northern half of South America, Central America, and some of the West Indies. A few cases of all three forms may occur in the armed forces, but will present only problems of diagnosis and treatment. They cannot become endemic in this country in the absence of the vector.

African trypanosomiasis, caused by *Trypanosoma gambiense*, occurs in that part of equatorial Africa where American and Allied forces have been stationed, and along routes of air transport. Isolated cases may occur in our troops and may not develop clinical symptoms until they return to this country. The

tsetse fly vector does not at present occur outside of Africa, but two specimens have been found in commercial airplanes reaching Brazil from Africa.[1] This indicates the necessity for rigid inspection and thorough spraying of both military and commercial planes after intercontinental flights, even though it would require a peculiarly favorable combination of circumstances to establish both the fly and the disease in the American tropics.

A few cases of American trypanosomiasis, caused by *Trypanosoma cruzi*, may occur among our troops stationed in South or Central America, but the infection is usually subclinical or mild in adults. It is already present in certain wild rodents and cone-nosed bugs in California, Arizona, and Texas, though no naturally infected human cases have yet been found in this country. One human case, produced experimentally from a naturally infected bug in Texas has recently been reported,[2] indicating that naturally infected human cases may occur. It is not likely, however, to become a serious problem.

Many helminthic infections of great clinical importance in extensive or restricted areas of the world may be encountered by our military personnel. Most of these are likely to produce only sporadic cases which will be problems of diagnosis and treatment, though subclinical cases may return to this country and raise the question as to whether the disease may become endemic.

Among the trematodes, the schistosomes are the most important. They infect man by penetration of the larvae through the skin after immersion in water containing infected snails. Individual infections may be acquired by bathing in or wading, fully clothed, through infected streams or ponds, or even from infected water piped to camps for bathing purposes without adequate chlorination. It is reported by a German investigator[3] that the usual sand filtration of water will not remove the larval forms. It is conceivable that our troops campaigning in the Celebes or Central China may become infected from immersion in streams, lakes, or canals. There is great specificity of the snail intermediate hosts of these worms and it is not known whether species which could act as intermediate hosts exist in the United States. The possibility, however, is indicated by the fact that schistosomes of lower animals, whose larvae give rise to an acute dermatitis in man, are endemic in this country, and research is desirable to determine whether possible intermediate hosts of human schistosomes are also present. The importation of farm labor into this country from endemic areas of *S. mansoni* in Puerto Rico and other West Indian islands emphasizes the desirability of such studies.

The other trematode infections of man are acquired by eating raw fish, crustaceans or water plants, and should not be encountered in our military forces.

Among the tapeworms there are only three to be considered. *Taenia solium*, the pork tapeworm, is practically unknown in this country. It may be acquired by eating insufficiently cooked native pork in regions where medical inspection is not required. Its importance is mainly clinical, because the larval stage may develop in man, causing fatal infestation of the brain.

Echinococcus, the dog tapeworm, which produces larval cysts in man, is a common human infection in northern and southern Africa, the Near East, and Australasia. In Iceland strict control measures have reduced the formerly high incidence. Man becomes infected from close association with dogs. It is possible that a few infections may be acquired by our military forces. In certain parts of the United States the infection is common in hogs, but for

some unexplained reason is uncommon in man. It is not likely to become a human problem in this country.

Diphyllobothrium, the broad fish tapeworm, is acquired only by eating certain insufficiently cooked fresh-water fish. It is widely endemic in Europe and Asia but its method of transmission limits it to certain racial and religious groups. It is already endemic in our north central states, and a recent report indicates a possible endemic focus in Florida.[4] It is improbable that new infections will be introduced by returning troops.

Among the intestinal nematodes, hookworm is the only important infection to be considered. Since our troops are not likely to go barefoot even in the jungle, the only possibility of their acquiring the infection is by lying, insufficiently clothed, in infected soil during active campaigns. Although the hookworm in this country has been attacked rather tardily in some of the heavily endemic areas, the prospect of reducing it to negligible proportions should follow continuation of vigorous control measures in the post-war period.

Lymphatic filariasis, caused by *Wuchereria bancrofti*, is the chief nematode problem facing the armed forces at the present time. The infection has a practically world-wide, though spotty, distribution in the tropics, and is particularly prevalent in native populations in the East Indies and parts of southern Asia. A considerable number of infections have already occurred among military personnel quartered close to native populations in the Pacific Islands. Repeated infection is required to produce elephantiasis or other permanent deformities, and the female worms require about a year to become adult and begin discharging larvae into the lymphatics and blood stream. The first symptom of infection, however, is acute localized lymphangitis, beginning about 6 months after infection when the worms are still immature. The cause of the lymphangitis is still in doubt, but it incapacitates the patient for days or weeks and usually recurs at frequent intervals for months or years. Since the disease is transmitted by a variety of mosquitoes, the chief of which are the common night-biting Culex species of world-wide distribution, breeding close to human habitations, prevention of infection has made little advance in most endemic areas. In the United States the only endemic area has been in and about Charleston, S. C., but a recent report [5] indicates that the parasite may have disappeared from this area. Since heavy infections and massive exposure to mosquitoes are necessary to establish and maintain an endemic area, it is highly improbable that returning troops will create any new foci in this country. The problem in the military personnel is primarily one of treatment of the recurring lymphangitis. No effective chemotherapeutic agent has yet been discovered, but it is hoped that research now under way will produce a cure for this disabling disease.

Bacillary dysentery is of great concern to military forces, not only in the tropics, but in temperate zones. It was a scourge in every war in which this country has been engaged until the first World War, and even then severe epidemics occurred in the American Expeditionary Force in France, and it was the commonest cause of illness in non-combatant troops stationed in the Philippines. It was a severe handicap to the military operations of the British in southeastern Europe and the Near East. In the present war it has caused epidemics in army camps in this country and has had a high incidence among British troops in the North African campaign. Whenever epidemics occur, a high incidence of symptomless carriers of dysentery bacilli can be found

in contacts living under the same conditions as the cases. A small proportion of cases and symptomless carriers become chronic carriers and give rise to future spread. Although an apparently protective toxoid has been prepared from the soluble toxin of the Shiga strain,[6] this will probably be effective only against Shiga infections, and no protection can be expected against the Flexner and other strains of the organism. Protection of the military forces must depend entirely upon sanitary food handling and excreta disposal, safe water supplies, and control of flies. Individual instruction of troops and enforcement of sanitary discipline, though difficult, must become a part of military operations. The great effectiveness of the sulfonamide drugs in the treatment of bacillary dysentery should reduce the number of chronic cases and carriers. These drugs can also be used in smaller doses for the prevention of active cases among contact carriers in the presence of an epidemic. This has already been demonstrated in mental hospitals as well as in a military unit.[7] The only possible danger of spreading the disease in this country from returning military personnel would be from the introduction of highly pathogenic strains which might be transmitted to families, institutions, or military camps in the presence of bad conditions of sanitation or personal hygiene.

Amebiasis, of which amebic dysentery and liver abscess are relatively infrequent clinical manifestations, is also a cosmopolitan infection widely prevalent in this country, but giving rise to more frequent and severe symptoms in many tropical and unsanitated regions. Recent experiments indicate that the cysts of *Endamoeba histolytica* are not all destroyed by the concentration of chlorine ordinarily employed for the production of potable water,[8] and that insufficient depth of sand and too rapid filtration in mechanical filters may allow cysts to pass through. The opportunities for drinking contaminated water in forward military zones, as well as the contamination of vegetables, the presence of flies, and exposure to native food handlers in most tropical areas, greatly increases the chances of infection of military personnel. Although reports indicate that amebic dysentery and liver abscess have not thus far occurred with great frequency among our forces at home or abroad, circumstances in newly invaded areas may cause the disease to become more important. There is good evidence that strains of *Endamoeba histolytica* differ in the frequency with which they produce clinical symptoms and in the severity of the symptoms, and that highly pathogenic strains are more common in certain areas or in epidemics such as that in Chicago in 1933.[9] For this reason the introduction of strains from the tropics must be considered a potential hazard. Moreover, this infection often has an extremely long incubation period, or may become chronic in unrecognized or insufficiently treated cases, thus exposing families or larger groups under circumstances of defective sanitation. In the protection of our forces from amebiasis the same rigorous discipline is necessary as for the prevention of bacillary dysentery, with the additional requirement that improved methods are necessary for the elimination of cysts from military water supplies in forward areas.

Typhoid fever fortunately presents no great problem to the military forces owing to the efficacy of the vaccine. Although a few cases will almost certainly occur from insufficient protection against massive infections, it is not likely that a sufficient number of carriers will be produced to create a hazard from returning personnel.

There remains one fungus infection endemic in this country, but rarely encountered elsewhere, which deserves

brief consideration. This is coccidioidomycosis which is endemic in California, particularly in the San Joaquin Valley, and in Arizona and Texas.[10] Since infection is usually acquired by the inhalation of dust in dry, sandy regions, military forces training in endemic areas are exposed to infection.[11] Fortunately, many infected persons seem to develop immunity without clinical symptoms, and the primary clinical infection in the lungs usually resolves permanently without the later general dissemination which is often fatal. The possibility of a rodent reservoir of this infection and the ability of the fungus to survive in a dry state make prevention a difficult problem for those who reside in endemic areas. It would seem wise for the military forces to determine whether or not the infection is present before establishing training areas in arid regions, and to remove installations which have already been established in infected areas. Fortunately it is probable that this fungus cannot be disseminated easily except in dry regions, and it is improbable that it will extend much beyond its present confines unless it is carried by dust storms, vehicles, or rodent reservoirs. Since transmission from man to man has not been observed, it is practically impossible for the infection to be transported by our military forces to other countries.

SUMMARY

A review of the diseases to which our military forces may be exposed in the present world conflict indicates that very few diseases of foreign origin are likely to present public health problems as the result of infections introduced by returning troops. A few cases of acute or chronic diseases such as plague, cholera, leprosy, yaws, leishmaniasis, trypanosomiasis, schistosomiasis, or other helminth infections may occur among troops coming into close contact with native populations. Dengue and phlebotomus fever may cause brief but incapacitating epidemics. Filariasis may incapacitate a considerable number for future military service in the tropics, but is not likely to develop new endemic areas in this country. Bacillary dysentery is a constant threat to effective military operations, and its prevention requires strict military and sanitary discipline. The only danger to this country from bacillary dysentery and amebiasis is the possibility of the introduction of new strains of organisms which might give rise to more serious infections in our civilian population. The fungus infection coccidioidomycosis, endemic in certain arid regions of our western states, presents an immediate problem of infection in troops under training, but is unlikely to become a problem of civilian populations very far outside of its present endemic areas. In short it may be stated with considerable confidence that the chief hazards in the importation of exotic diseases are from the introduction of new strains of parasites already present, and the introduction of new vectors of disease. The Army, Navy, Public Health Service, and the medical schools have instituted better instruction in tropical medicine, and thousands of medical officers are gaining practical experience with the armed forces. Through a better understanding of tropical medicine by the medical profession, by the expert training of laboratory personnel, and by the continued development of alert national, state, and local public health services, there is little danger that the present war will result in the serious dissemination in this country of diseases which would not occur in times of peace.

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Symposium on Cancer Regarded as Successful

Morton L. Levin, M.D., the Assistant Director of the New York State Division of Cancer Control, Albany, who is serving as Secretary of the Cancer Symposium Committee, reports that the Cancer Symposium arranged at the 72nd Annual Meeting of the American Public Health Association by an informal group attracted an attendance of more than 300 persons on October 11. According to Dr. Levin, at least 16 states and 45 institutions or organizations were represented.

An informal Cancer Committee was reappointed by the group following the meeting, composed of the following persons:

Herbert L. Lombard, M.D., *Chairman*
Morton L. Levin, M.D., *Secretary*
Lauren V. Ackerman, M.D.
Raymond V. Brokaw, M.D.
Thomas J. Duffield
James W. Hawkins, M.D.
Clarence C. Little, Sc.D.
J. Louis Neff
Edmund Zimmerer, M.D.

Immunizations in the United States Army*

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INFECTIOUS diseases have always played a significant rôle in the prosecution of wars. Such diseases have, in all major conflicts of the past, been responsible for more deaths and disabilities than have the injuries of battle. In reading the histories of our past campaigns, it is gratifying to note that there has been a progressive improvement in the care afforded the sick and wounded. Improvement in the effectiveness of measures designed to prevent diseases have, however, developed somewhat more slowly. In the Mexican War, disease caused seven times as many deaths as did battle. In the Civil War, the ratio was about two deaths from disease to one from battle injuries. At the time of the Spanish-American War, while information was available about many of the micro-organisms of disease, military sanitation and hygiene were as yet not well developed. Consequently, again seven men were lost from disease to every one killed in battle. One of every five men developed typhoid fever, and this disease, now fortunately largely preventable, resulted in 80 per cent of the total deaths.

During World War I, the advances that had been made in the control of infectious diseases were applied effectively in military preventive medicine. During that great war, the number of men lost from battle injuries and those dying from disease were almost equal. The major problems were those presented by the respiratory diseases, particularly influenza.

The problems of disease prevention in the present war are undoubtedly the greatest with which our Army has ever been confronted. With what success these problems will be met is impossible to say at this early date. The record up to this time is good.[1] It is sincerely hoped that this record can be maintained and improved. To this end, every effort is being made by the Medical Department to apply effectively the best methods and procedures for the prevention and treatment of disease.

In this discussion, only one aspect of these activities will be considered—the prevention of disease by means of immunization. The regular immunization procedures available for troops during the last war were essentially limited to vaccination against smallpox, typhoid fever, and the paratyphoid fevers. Today there are six active immunizations which are being administered more or less routinely, and other procedures which may be used under certain circumstances.

For administrative purposes, these immunizations have been divided into two classifications: the so-called "routine" immunizations, and the "special" immunizations.

* Presented before the Laboratory Section of the American Public Health Association at the Seventy-second Annual Meeting in New York, N. Y., October 12, 1943.

ROUTINE IMMUNIZATIONS

The routine immunizations are those administered to all military personnel as soon as possible after entrance into the federal service. These are vaccinations against smallpox, typhoid fever, and the paratyphoid fevers, and active immunization against tetanus.

SMALLPOX VACCINATION

Smallpox vaccination was, of course, the first immunization to be practised in the United States Army. It was used on a small scale during the War of 1812 and the Mexican War, and somewhat more extensively during the Civil War. Universal vaccination of troops was adopted in our Army at the end of the last century. Since that time, vaccination of all military personnel has been rigidly enforced and the occurrence of smallpox is so rare as to be almost nonexistent. This is not surprising. It is merely another example of the results of complete vaccination of a population and serves to emphasize once again that epidemics of smallpox need not occur.

Glycerinated calf dermo vaccine is the agent utilized for smallpox vaccination. The method recommended is that commonly known as the multiple pressure method, and, of course, the use of dressings of any kind over the vaccinated area is avoided. Smallpox vaccination is repeated every 3 years unless it is known that there has been exposure to cases of the disease or that such exposure is likely to occur. In these instances, it is considered more practical to vaccinate all of the contacts than to attempt any sort of selective vaccination.

Occasionally the question is asked as to whether or not the possible exposure of troops to highly virulent forms of smallpox will require their vaccination with a more potent strain of vaccinia virus than that commonly used. This is not considered to be necessary. It is believed that adequate protection can be afforded by the maintenance of a high level of immunity through frequent vaccinations. In this connection, it is important to recognize that a primary type of reaction is not necessary for the stimulation of immunity. An increase in the level of immunity is also afforded by vaccination resulting in a vaccinoid or accelerated reaction or in an immune reaction.

TYPHOID VACCINATION

Typhoid vaccination is, of course, one of the routine immunization procedures. Stimulated by the experience with typhoid fever in the Spanish-American War, General F. F. Russell in 1908 developed an improved type of typhoid vaccine, the use of which was made compulsory in the Army in 1910. Paratyphoid A and B microörganisms were added to the vaccine during the first world war, and its use together with the improvement in methods of sanitary control practically eliminated typhoid fever. It has been estimated that if the Army typhoid rates of 1898 had obtained during World War I, there would have been a half million cases and more than 50,000 deaths from typhoid. As it was, there were less than 2,000 cases and only about 200 deaths among 4,000,000 soldiers. It is encouraging to note that since the present mobilization began in 1940, the incidence of typhoid fever has been negligible.

During the peacetime years following the first world war, the paratyphoid organisms were dropped from our vaccine and routine vaccination in the Regular Army was accomplished by a monovalent typhoid vaccine. In 1936 the Rawlings strain of *Eberthella typhosa* was discontinued and the smooth virulent Panama 58 strain was substituted. It is this strain which is currently used in the manufacture of typhoid vaccine for use in the Army. At the beginning of the present

emergency, the triple typhoid vaccine was re-adopted. This vaccine, which is manufactured at the Army Medical School, Washington, D. C., is standardized to contain in each ml. 1,000 million *Eberthella typhi* and 250 million each *Salmonella paratyphi* and *Salmonella schottmuelleri*. The initial vaccination consists of three subcutaneous injections at intervals of 7 to 10 days. The first dose is 0.5 ml. and the second and third doses are 1 ml. each. Immunity is maintained by the subcutaneous administration of 0.5 ml. of the vaccine each year. A similar dose is administered in the event of actual or potential exposure to typhoid or paratyphoid fever.

TETANUS IMMUNIZATION

The use of tetanus toxoid for active protection against tetanus is the third immunization routinely employed. The early experience in the Army with the use of this material was reviewed last year.[2] At that time, it was stated that since the adoption of this procedure only 4 cases of tetanus had been reported from the entire Army, and that none of these cases were in immunized individuals. It is gratifying to be able to bring the record up to date by the addition of only 5 more cases, 3 of which had received no tetanus toxoid. Of the 2 who had received toxoid, 1 had been given four injections, the last about 3 months prior to his injury, a compound fracture of the tibia. The other had received three injections, the last about 7 months prior to a gunshot wound in the abdomen. Neither of these wounds was a battle injury and neither patient received his initial treatment in a U. S. Army hospital.

In the first case, an emergency stimulating dose of toxoid was not administered, and symptoms of tetanus developed about 10 days after the injury. Response to therapy was satisfactory and the patient recovered.

In the second case, the emergency dose of toxoid was administered on the 2nd day following the injury. On this same day the first symptoms of tetanus were noted. Following this unusually short incubation period, this case terminated fatally about 12 hours after the onset of muscle spasm, despite sedation and large doses of antitoxin. It is unfortunate that an autopsy was not performed, since certain unusual features of this case suggest the possibility that a condition other than tetanus might have been the cause of the symptoms and death.

There has, then, been a total of only 9 cases of tetanus reported from the Army over a period of almost 2½ years. None have been reported following battle injury, and only 2 occurred in individuals who had completed their initial series of toxoid.

The method used for immunization is the administration of plain or fluid tetanus toxoid in a series of three subcutaneous injections of 1 ml. each at intervals of 3 weeks. Under ordinary circumstances, a single stimulating dose of 1 ml. is administered at the end of the first year after the initial series. Another 1 ml. dose is administered prior to departure for a theater of operations, unless such departure is within the 6 months' period subsequent to the administration of a previous dose. An emergency stimulating dose is administered upon the occurrence of wounds or severe burns on the battlefield, or at the time of secondary operations or manipulations of old wounds, or at any other time when danger from tetanus is considered to be a possibility.

The apparent clinical efficacy of this method of immunization would appear to corroborate laboratory evidence which has indicated that the method affords a maximum of protection.[3]

With the removal of certain offending peptones from the culture medium used in the manufacture of the toxoid, the

reactions of sensitivity previously reported have apparently almost ceased to occur. It is still considered, however, that in the preparation of materials of this type, the simplest medium affording the production of a potent and stable antigen should be used.

SPECIAL IMMUNIZATIONS

Those procedures referred to as special immunizations include vaccination against yellow fever, typhus, and cholera.

YELLOW FEVER VACCINATION

In view of the existence of yellow fever, particularly the endemic or jungle type of the disease, in certain areas of the world, it is fortunate that there has been made available an effective vaccine against this disease. While much can be done, time and the general situation permitting, to control and prevent the occurrence of the so-called urban type of yellow fever, the challenge presented by the jungle form is much more formidable and under some military conditions might well be impossible to meet.

The yellow fever vaccine now being used is prepared from chick embryo cultures of the 17D strain of virus.[4] The finished vaccine is placed in ampules, then is rapidly frozen and desiccated. The ampules are then sealed and stored at freezing temperatures.

The dose is 0.5 ml. of a 1:10 dilution of the frozen and dried material. Immunization is accomplished by the administration of a single dose. Immunity is developed within 1 week to 10 days following vaccination and is considered to last for at least 4 years in adults.[5, 6] This protection is given to personnel travelling to or through or stationed in areas where yellow fever is endemic.

While information concerning the degree and extent of exposure of United States military personnel to yellow fever is not available at this time, it is possible to report that no cases of the disease have been reported from our troops.

The outbreak of jaundice in the Army and its relation to yellow fever vaccination has been reviewed elsewhere.[7] Further reports of the investigations pertaining to this episode will soon be published. For the purpose of this discussion, a brief summary of certain features of this complication of yellow fever vaccination will suffice.

The increased incidence of jaundice in the Army began in March, 1942, and the peak was reached before the end of June. The outbreak had completely subsided by September, and since that time no more than the commonly expected incidence of jaundice among troops has been reported. The clinical course of the disease presented a strikingly uniform pattern in the great majority of patients. The disease resembled most closely so-called catarrhal jaundice or epidemic hepatitis of unknown etiology. The case fatality rate, based upon reported admissions to hospitals, was approximately 0.2 per cent.

Recovery usually occurred in 4 to 8 weeks and was complete in the vast majority of cases. A variety of diagnostic terms were applied to this disease. These included: jaundice without known cause, catarrhal jaundice, infectious hepatitis, epidemic hepatitis, cholangitis, obscure jaundice, yellow jaundice, and postvaccinal hepatitis. Exhaustive epidemiological and laboratory studies resulted in only negative evidence as far as demonstration of the transmissible agent of the disease is concerned. These negative results, however, have served to exclude a number of infectious diseases in which jaundice occurs. The outbreak of jaundice in the Army was not Weil's disease or any other type of leptospiral infection. It was not a bacterial in-

fection and had no relation to infectious mononucleosis. The disease was not yellow fever, nor a modified form of yellow fever. Yellow fever virus has not been recovered from any material (blood, bile, urine, liver, etc.) from jaundice patients.

Certain special features of the occurrence of jaundice among troops form the basis for the conclusion that this outbreak was a type of jaundice following the administration of certain lots of yellow fever vaccine, and that the disease was not contagious in the ordinary sense, and hence did not constitute a danger to public health.

When it appeared likely that the jaundice was associated with vaccination against yellow fever, the vaccine then in use was discontinued. On the assumption that the human serum component of certain lots of vaccine may have carried an icterogenic agent, the vaccine used since that time has been prepared without human serum, and more than a year has now elapsed since any unusual incidence of jaundice has been reported.

Further evidence that the icterogenic agent was carried by the human serum has recently been reported,[8] and there is every reason to believe that the use of yellow fever vaccine produced without the addition of human serum has eliminated the danger of jaundice following its administration.

TYPHUS VACCINATION

Typhus vaccine is also administered to troops under certain conditions. Typhus fever, has, since ancient times, been a disease of the greatest military significance. For its control, sanitary measures are of paramount importance. These measures are, of course, directed toward the prevention of lousiness among troops. For this purpose, highly effective insecticidal agents have been developed and improved methods for the disinfestation of clothing, bedding, etc., have been adopted. In addition, typhus vaccination is required for all military personnel who may come in contact with this disease. It is believed that the vaccine now being used is the best ever developed. It is administered in three doses of 1 ml. each, with intervals of 7 to 10 days between injections. A stimulating dose of 1 ml. of vaccine is given every 4 to 6 months, or at the discretion of the responsible medical officer in the presence of danger from infection.

The conditions under which typhus vaccination has been practised in the Army have not permitted a well defined evaluation of its efficacy. Vaccinated troops have, however, operated in areas where typhus was epidemic and very few cases have developed. Of the cases that have occurred, many have been so mild as to have required special laboratory studies for their diagnosis, and the case fatality rate has been extremely low. From these observations, it is evident that typhus fever has not as yet been a problem of any magnitude. While it is too early to predict what the ultimate experience with this disease will be, it may be said with some confidence that vaccination and the other anti-typhus measures being applied afford to the troops the maximum protection available.

CHOLERA VACCINATION

The third special immunization procedure is vaccination against cholera. This disease is now largely confined to endemic and epidemic centers in Asia. In some regions of that large area, cholera continues to be a public health problem of great importance. The disease, of course, has not always been limited to that part of the world, but has on occasion been much more widespread. Epidemics were experienced in America in the last century and as late as 1911 the disease reached the port of New York. During World War I, it

occurred in Russia, Austria, Hungary, Germany, and Italy.

In certain situations cholera could become a real menace, and danger from this disease cannot be disregarded. For its prevention, chief reliance must be placed on the sanitary control of food and water. As an added safeguard, cholera vaccination is now required for all military personnel stationed in or traveling through Asia, and provisions have been made for the vaccination of troops in other areas where danger from this disease may develop.

The vaccine now being distributed for use in the Army consists of a suspension of 8,000 million killed cholera vibrios per ml. Two East Indian strains of high virulence and stability are used in the manufacture of this vaccine. It is administered in two doses at 7 to 10 day intervals. The first dose is 0.5 ml. and the second dose, 1 ml. The present policy is to administer an additional 1 ml. dose every 4 to 6 months in the presence of danger of infection.

The degree and duration of immunity established by this vaccination is still not fully determined. Experience in the Far East by the British and others indicates, however, that a sufficient degree of protection is afforded to make its use advisable.

OTHER IMMUNIZATIONS

Vaccination against plague is another procedure for which provisions have been made. Again, as in typhus and cholera, sanitary measures are stressed for the prevention of plague, and it is believed that in the majority of instances these measures will prove to be adequate protection. Plague vaccine is not now routinely administered to troops, but is supplied to forces in those areas where danger from the disease may be confronted. While there is little well controlled experience with the use of this material, it is felt that if the need arises, vaccination may prove to be a valuable aid in the prevention of this time-honored menace.

The vaccine provided consists of a suspension of 2,000 million killed virulent plague bacilli per ml. The plan of administration is to give two initial doses approximately 1 week apart; the first dose to consist of 0.5 ml. and the second dose 1 ml. Stimulating doses may be administered at the discretion of the medical officer.

Immunization against such diseases as diphtheria and scarlet fever is not routinely practised, but materials are made available for use if the situation should require artificial protection against these diseases. The material provided for immunization against diphtheria is fluid diphtheria toxoid, to be administered in three injections of 0.5 ml., 1 ml., and 1 ml. respectively at intervals of approximately 3 weeks. Since reactions to diphtheria toxoid are not uncommon in adults, particularly those who demonstrate the combined type of reaction to the Schick test, it may be necessary to alter this scheme of administration to suit the individual case. In any event, it is felt that only those individuals who are shown by the Schick test to be susceptible to diphtheria should be immunized.

Scarlet fever streptococcus toxin is supplied for scarlet fever immunization but is administered only under special circumstances. In general, its use is confined to the protection of nurses, ward attendants, and others in close association with the disease. As with diphtheria toxoid, the reactions attending the administration of streptococcus toxin to adults require special care in its use.

PASSIVE IMMUNIZATION

The foregoing discussion has been concerned with the use of antigenic agents for the development of active immunity to certain infections. In addition, there are utilized to a con-

siderably less extent materials providing pre-formed antibodies and antitoxins for passive protection.

Tetanus antitoxin is provided in 1,500 unit doses to be used prophylactically in those rare cases in which previous conditioning by tetanus toxoid is in doubt.

A bivalent antitoxin is also available for protection against gas gangrene. This material is administered to those cases which, in the opinion of the surgeon, require its use. The prophylactic dose contains 10,000 units each of perfringens and vibrion septique antitoxin.

The utilization of human immune serum and human globulin (placental extract) for the protection of individuals or groups known to have been exposed to such infections as measles or mumps is not considered practical for general application in the Army. Consequently, the use of such material has been limited largely to those instances where, for military or medical reasons, it has been absolutely imperative that all chances of infection be avoided.

NEW IMMUNIZING AGENTS

The materials and methods currently employed in the Army for specific protection from infections have been summarized. As new agents are developed and their value demonstrated, they will undoubtedly be adopted if a need for them exists. Among such materials now being studied, and concerning which the Medical Department has a keen interest, are influenza vaccine, gas gangrene toxoid, and dysentery vaccine.

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Experience with the Administration of a Medical Care Program for Wives and Infants of Enlisted Men*

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THE recent appropriation by Congress of $18,600,000 for emergency maternity and infant care for the wives and infants of enlisted men in the fourth to seventh pay grades of the armed forces has put the program on a basis that should give assurance to the men in the forces, to their wives at home, and to those who administer the program, that there will be no interruption in this service. The discussion in Congress has made it clear that it is the present intention of Congress to provide sufficient funds to carry the program forward throughout the war.

The enthusiasm with which it has been received by the wives of the men and by the men in the Army has fully justified the effort that it has meant for administrative officers, physicians, nurses, and hospital administrators. The purpose of the program as declared by Congress is twofold: To relieve the wives of the enlisted men of worry as to how they can get the necessary maternity care for themselves and medical care for their infants regardless of their place of residence, and to reassure the enlisted men themselves that their wives and infants will have this care in their absence. The sense of security thus developed will assuredly improve the morale both at the fighting front and on the home front.

When making the initial appropriation of $1,200,000 for this program in March, 1943, and again when augmenting it with funds for the current fiscal year now amounting to $23,000,000, the Congress showed its very great interest in providing all necessary medical, nursing, and hospital care for the wives of the enlisted men and for their infants. The administration of the program was entrusted to the state health agencies already responsible for the maternal and child health aspects of the Social Security Act. The appropriation act specified that state plans were to be developed and administered by the state health agencies and approved by the Chief of the Children's Bureau. Good public policy required that the administration of this program as of others involving the expenditure of public funds should be by public agencies.

There was thus placed upon the state health agencies responsibility for a medical care program that will involve, before the war is over, care of many hundred thousand mothers and children. For the first time, state and local health departments are carrying out programs of maternity and infant care that reach out into every county and municipality, that are as widespread geographically as the draft of

* Presented before the Maternal and Child Health Section of the American Public Health Association at the Seventy-second Annual Meeting in New York, N. Y., October 13, 1943.

enlisted men under the Selective Training and Service Act of 1940. Fortunately, during the previous 8 months 30 state health agencies had already started programs of maternity and infant care for enlisted men's wives and children under the provisions of title V of the Social Security Act, and a small body of experience was available on which an expanded program could be built. During this period some 6 thousand wives and infants were given care and basic procedures were developed. The experience of many state health departments in the administration of the crippled children's program should not be forgotten in this connection, for from it, as from the special maternity care demonstrations started in 1939 and 1940, much of value to the present emergency program had been learned.

Once the intention of Congress to make available adequate appropriations to carry out a continuing program became clear, the development of plans has been rapid. Today all but 4 states and Puerto Rico have approved plans and are actively participating in the program. Two of these 4 states have already submitted tentative plans (Texas and Colorado), and it is expected that the remaining 2 (North Dakota and Louisiana) will send in plans soon. Further consideration is being given to coöperation by Puerto Rico. In the 6 months since Congress made the first appropriation the 47 states now coöperating reported that care has been authorized for nearly 70,000 wives and infants of enlisted men. Estimates on the basis of which the most recent appropriation of $18,600,000 was made indicate that during the present fiscal year in the neighborhood of 300,000 wives of enlisted men may be expected to apply for maternity care. How many will apply for medical care for their infants cannot even be estimated at present.

Statistics are not yet available to show the composition of the group now applying for maternity care or their characteristics as to age, parity, race, or place of residence. Nor do we yet know about the attendants at birth, the place of birth, the mortality among mothers and infants. Plans for gathering information on these matters are, however, under way.

The responsibilities of administrative agencies in carrying out this mandate of Congress are obviously great because the medical care of many hundred thousand mothers and infants will be involved and basic principles of administrative procedure will be laid down, while at the same time due regard must be given to the efficient and proper use of large sums of taxpayers' money.

In discharging her duty in the allotment of funds to state health agencies as set forth in the act, the Secretary of Labor has issued a regulation instructing the Children's Bureau to administer the program in accordance with certain provisions of Title V, part 1, section 503(a) and (b) of the Social Security Act. These provisions relate to methods of administration, coöperation with medical, nursing, and welfare groups and organizations, reports by state agencies, and approval of state plans by the Chief of the Children's Bureau. Under this authority the Chief of the Children's Bureau has the responsibility to establish administrative and professional standards (apart from those related to practitioners performing obstetrical services) by which may be measured the adequacy and efficiency of state plans and to give information to the state agencies as to these standards so that their plans may be in reasonable conformity.

In developing the general policies established for this purpose the Children's Bureau has had the advice of the Conference of State and Territorial

Health Officers and the Maternal and Child Health Committee of the Association of State and Territorial Health Officers, and has consulted with its special obstetrical and pediatric advisory committees, and with groups of hospital administrators. The bureau will continue to seek advice from these sources. The final responsibility for establishing policies and standards rests, however, with the bureau, and when advisers differ decisions must be taken that may not always meet the recommendations of all groups. It is also the responsibility of the Children's Bureau to interpret, with the aid of its legal counsel, the intent of Congress, and to administer the program accordingly.

As state plans have been formulated and programs started, certain general administrative principles have emerged and policies have been established that I would like to discuss here. From the beginning it was clear that certain general policies had to be nation-wide or too great confusion would have resulted.

The language of the appropriation acts and the legislative history surrounding their passage have made clear the intent of Congress in passing this legislation. The most recent legislative history connected with the appropriation of $18,620,000 for this program leaves no doubt that the Congress intended that all necessary care would be made available and that physicians, nurses, and hospitals would be paid for services. The Congress was unwilling to initiate any other plan, such as cash grants to the wife, since such a plan, it believed, would not assure the medical and hospital care and might well defeat the primary purposes of the program.

The Congress has also made it clear that this is not a so-called "charity" service, but that it is to be provided as the right of any wife of an enlisted man in the fourth, fifth, sixth, or seventh grades of the Army, Navy, Marines, or Coast Guard who applies for care for herself or for her infant during his first year of life. No "means test" or financial investigation is involved. To permit any test or investigation that might result in uncertainty as to whether or not care would be paid for would at once nullify the primary purpose of the program and shake the confidence of the enlisted men in the safety of their wives and infants.

Another basic principle under which this program is being administered is that wives of enlisted men applying for care should have free choice in the selection of their care, provided the choice is made from among physicians, clinics, hospitals, or health agencies approved by the state health agency under conditions laid down in its state plan.

That an individual wife should be free under the program to select, if she wishes it, care by a private physician in his office, and that there should be no limitations on her choice other than those needed to assure reasonably high quality of care and economical and effective use of public funds, is reasonable and right. However, it is also reasonable and right that she should be equally free to select care in a clinic, a health center, or a hospital, either public or voluntary. She should be entitled under this program to make an arrangement for complete maternity care in the outpatient and inpatient service of an approved hospital that provides this unit of service for a fixed fee covering both medical service and hospital care.

The legislative history has made it clear that this is not a program limited to care given by private practitioners, but that all existing community facilities, including prenatal clinics, child health conferences, public health nursing services, outpatient clinics, medical social services, should be used to provide, as far as possible, complete care for mother and infant. Each of these

wives should be free to apply for and receive the services of a public health nurse without question whenever such services are available.

In approving state plans, the Children's Bureau has specified that policies may not be adopted by state health agencies that would prevent this free choice of the type of care desired by the wives of the enlisted men.

Still another general principle that obviously must be laid down for the administration of this program is that the quality of care must be kept high. A review of the discussions in Congress and in committee brings out the fact that from the beginning it has been the intent of Congress to provide as complete and as satisfactory maternity and infant care as is feasible for the enlisted men's wives and infants. Therefore, to supplement the care usually recognized as necessary for the uncomplicated maternity case or for routine medical care and health supervision of the infant, special additional care needed for complications or serious illness has been made possible under the program. This includes consultation and diagnostic assistance of specialists, prolonged hospital care, special nursing service, special diagnostic procedures as x-ray examinations, special therapeutic procedures as blood transfusions or appliances. Provision for payment for each of these special services is made in all state plans. Obviously, the quality of care will depend on the standards established by state health agencies for the selection of physicians, hospitals, and clinics offering care, and on the ancillary public health nursing and welfare services made available.

In passing the Labor Federal Security Appropriation Act for 1944, the Congress placed the responsibility for setting standards for practitioners performing obstetrical services squarely upon the state, and withdrew from the Children's Bureau its former right to establish these standards. State health agencies can no longer rely upon the federal agency in this respect, but must look to their own statutory authority to maintain high standards of obstetric care. For all other standards of professional service the Children's Bureau still has the power to set up the measuring sticks it will use in approving state plans. I would caution the state health agencies to look sharply at the standards of obstetric care they are setting and take all necessary steps to keep them at a high level so that we may maintain the excellent record in the reduction of maternal mortality of the past decade.

The last and perhaps the most obviously controversial principle that I want to discuss here is that payment for care under this program by the state health agencies whether to physician, hospital, clinic, or nurse must necessarily be at fixed rates based on average costs of adequate care excluding luxury services.

Experience has shown that in the case of hospitals and clinics, such rates may be reached comparatively easily on the basis of the so-called "ward-cost-per-patient-day." Such a basis of computation of cost of hospital care was established and is now in use under the Crippled Children's Program; it covers the cost of interne and other paid physicians' services as well as all other costs of routine care. This does not mean, however, that accommodations would necessarily be in wards though wards may be used, but that the rate paid would be based on ward costs. Actually the rate paid in most hospitals exceeds the rate scheduled by the hospital as the charge to ward patients; it may even reach or nearly reach the semi-private rate. The hospital may place the wives of servicemen in any accommodations they wish to make available, but the hospital cannot expect a higher rate of pay

than the ward-cot-per-patient-day.

In developing rates for payments to private physicians, on the other hand, the task is not so easy. Maternity care is a unit of service that lends itself very satisfactorily to a fixed fee plan. In arriving at a fixed fee, therefore, it becomes necessary to establish rates which represent a fair average of the usual range under the sliding scale, excluding the maximum charges made to patients in the highest income brackets and bearing in mind all the while that there will be no unpaid bills if required reports are submitted. Because of the wide variation in maximum fees charged by private practitioners in different parts of the country, it has become necessary for the federal agency to set a maximum.

A corollary of this principle of fixed rates for medical and hospital care to be paid by state health agencies under this program is that additional fees will not be charged by private physicians, and hospitals will not charge the recipients of care extra when accommodations other than ward care are made available. To permit such additional charges would force the wives of the enlisted men into negotiating with physicians or hospitals in respect to the fees or rates they would be willing to pay over and above the amount paid by the state health agency. If such negotiation with physician or hospital were permitted it would be, in effect, a means test applied by the physician or hospital which would defeat the primary purpose of the program, namely, the provision of care without cost to the wife of the enlisted man. It would at once introduce an element of uncertainty as to whether the care is assured.

The question has been repeatedly raised as to whether it would not be acceptable for a state health agency to pay the cost of hospital care and allow the wife of the enlisted man to negotiate the medical fee privately with her physician. If a wife of an enlisted man is financially able to pay higher fees charged by some obstetricians and chooses to do so, it has to be assumed that she can and should also pay for hospital care. Any other arrangement would mean that pressure could be brought to bear on any enlisted man's wife to pay physician's fees that are in excess of those paid by the state health agency and to apply to the state health agency for hospital care only.

To make it possible, however, that wives of enlisted men who wish to do so may make payments toward the total cost of their care provided under the state plan, state health agencies may arrange to receive voluntary contributions toward the total cost of their care from the recipients of care or from others in their behalf. The money so paid would be added to the funds for the program in the state treasury, and would not be used to raise the physician's fee or the payments to hospitals.

I have discussed at some length these basic policies underlying the administration of this maternity and infant care program because many individuals have not understood the reasoning back of these decisions. The rapid development of the program has brought many difficulties, especially those involving the location of personnel to handle the detail of office administration. I am glad to be able to report that order is taking the place of confusion; procedures have been clarified; and policies are better understood.

The speed with which small divisions of maternal and child health have grappled with the job and the efficient methods that are now being established are a great credit to the directors and their staffs and to the others in the health departments that have given the maternal and child health divisions a hand. It has not been generally appreciated, and this applies also to the

Congress, that most of the Social Security Title V funds are spent by the states for local service and that only relatively small central state administrative staffs were available to take over the large task of the emergency maternity and infant care program. It is a great credit to the states that it has been put into operation as promptly as it has.

Of course, many difficulties are yet to be overcome, but I am sure the way will be found, if together we continue to discuss the pros and cons and keep in mind the welfare of the people we are trying to serve as the test of the reasonableness of our decisions. Is it unreasonable to ask that we strive to give as good care to the wives and children of men in the armed forces as the Army and Navy are giving to the men themselves, and that we give it as freely and certainly? With such a goal in mind most difficulties can be smoothed away. No program of this size and importance could be developed without many growing pains and without some mistakes being made. The experience to be gained is very great and will stand us all in good stead as the maternal and child health programs expand in the years to come.

Epidemiological Notes on Meningococcal Meningitis in the Army*

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THE Army's health record has been remarkably good during the present war. In only a few respects has it been less favorable than that of the small peacetime army quartered in permanent installations and made up largely of seasoned troops. Meningitis is the chief disease which has increased in prevalence, and for this reason it is believed that a review of our experiences to date with meningococcus infections should be worth while.

It is emphasized that this paper is not intended as a complete epidemiological study, but merely as a presentation of some of the outstanding points about the incidence of the disease during the past winter and spring in Army camps and stations in this country. No reference is made to carrier rates, types of meningococci found, or other bacteriological features because these are fully discussed in other papers presented at this meeting.

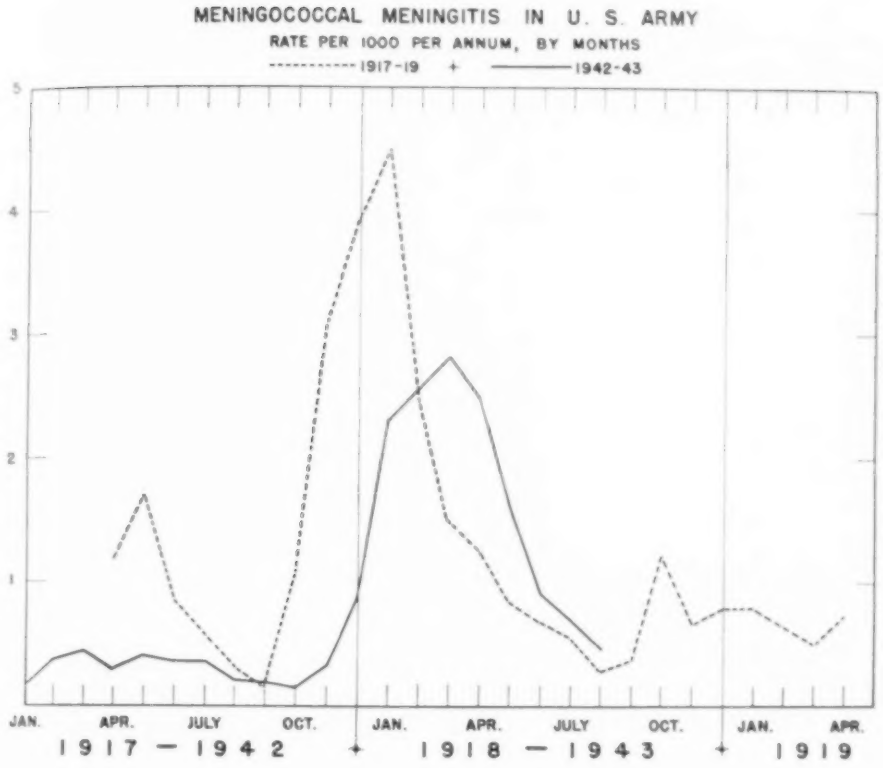
Some comment should be made as to the reliability of the data on Army incidence. This is undoubtedly more complete than civilian reporting, but cannot be regarded as entirely accurate. Individual judgment and difference in diagnostic criteria give rise to differences in reporting. The reporting of meningitis cases in which the etiological agent had not been bacteriologically identified varied at different posts; such cases were often classified as "meningitis, other types," and were not always included in incidence rates. There were also numerous cases of septicemia, presumably meningococcal, where positive cultures were never obtained and no report was made. Furthermore, the data used were weekly morbidity reports which are provisional and subject to later correction.

It is known that meningitis occurs in cycles lasting several years with a sharp seasonal rise and fall superimposed on the long cyclic wave. The years of highest prevalence in this country since the first World War were 1929 and 1936. The incidence is also high during wars and among military forces. The present war has coincided with an expected cyclic increase and it is likely that the resultant of these combined factors has been a much higher prevalence than would have been produced by either one acting independently.

The last major epidemic of meningitis in the United States Army was in the winter following our entry into the first World War. It was an explosive outbreak reaching its peak in January, 1918, and subsiding by the following August nearly to the previous level. A secondary peak followed in September,

* Presented before the Laboratory Section of the American Public Health Association at the Seventy-second Annual Meeting in New York, N. Y., October 12, 1943.

FIGURE 1



but the rate was less than one-third of that attained in January [1] (see Table 1 and Figure 1).

By comparison the curve of the recent epidemic is strikingly similar. It, too, began within a year after our entry into the war, although somewhat longer after the beginning of mobilization. The peak incidence was two-thirds of that in 1918 and occurred in the month of March; but the increased rate has lasted longer so that the annual rate, when computed at the end of the year 1943, may well be nearly as high as that for 1918.

Coincidentally with the outbreak of meningitis in the Army, there occurred a greatly increased prevalence in the civilian population (see Table 2). Both increases, the military and the civilian, were, roughly, tenfold above the normal prevalence. In keeping with the well known predilection of meningitis for military forces, its incidence in the Army both in peacetime and during the

TABLE 1

Meningococcal Meningitis in Army in United States

Admission Rate per 1,000 per Annum, by Months

	1917	*1918*	*1919*	*1942*	*1943*
January	....	4.48	0.80	0.17	2.32
February	....	2.43	0.66	0.38	2.58
March	....	1.51	0.50	0.43	2.82
April	1.18	1.25	0.74	0.29	2.48
May	1.71	0.83	0.70	0.40	1.63
June	0.85	0.68	0.44	0.37	0.91
July	0.58	0.55	0.39	0.36	0.70
August	0.32	0.28	0.38	0.21	0.46
September	0.15	0.37	0.17	0.19	....
October	1.08	1.21	0.09	0.15	....
November	3.09	0.67	0.09	0.32	....
December	3.94	0.80	0.09	0.87	....

epidemic, was considerably higher than in the civilian population, the ratio between military and civilian rates remaining quite constant.

TABLE 2

Meningococcal Meningitis in United States Civilian Population

Rate per 100,000 per Annum, by Months

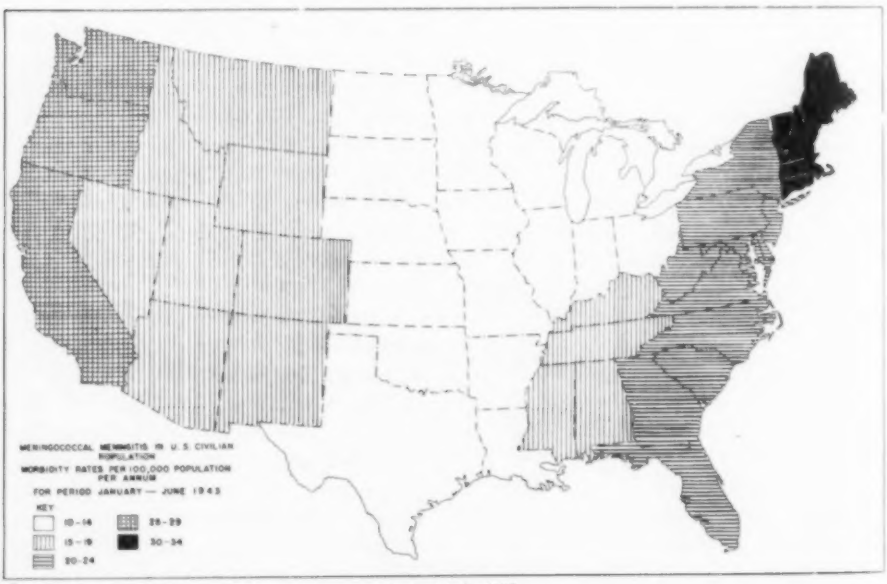
	1942	*1943*
January	2.2	11.6
February	2.7	16.6
March	3.3	22.4
April	4.0	23.5
May	3.3	20.3
June	3.1	14.9
July	2.2	9.6
August	2.1	7.0
September	1.7	...
October	2.3	...
November	2.8	...
December	3.8	...
Total	2.8	

During the epidemic there was a distinctly higher prevalence of meningitis in the civilian population along the Atlantic and Pacific seaboards than in the interior of the country. Arranging the geographic regions in the order of ascending meningitis incidence for the first half of 1943, we have the following sequence: The West North Central States were lowest, followed by the West South Central, East South Central, Mountain, Middle Atlantic, South Atlantic, Pacific, and New England states, which had the highest incidence. The map, Figure 2, illustrates this point.

In the Army, on the other hand, no distinct geographic localization was observed. The epidemic began at approximately the same time in all portions of the country although there was a variation of several months between its onset in individual stations. Figure 3 is a map of the United States, divided by service commands, on which the incidence of meningitis in the Army over the same 4 month period is shown for comparison with Figure 2.

Table 3 shows the course of the outbreak in terms of annual rates by weeks from October, 1942, through August, 1943. This is a composite picture made up of much briefer individual

FIGURE 2



outbreaks at separate posts. The peak was reached in the week ending March 27. It will be noted that while the descending portion of the curve is quite similar to the ascending portion, the incidence in August, 1943, was still roughly three times as high as in the previous fall. On the basis of past experience with civilian outbreaks, it is anticipated that the incidence will continue to be above the normal inter-epidemic level during the coming year. There are, however, reasons to believe that it will not be as high as during the past winter. These are the smaller proportion of new recruits who will be in training and the likelihood that spacing of troops will be more ample than was possible last winter.

Through the courtesy of Dr. John J. Phair, Director of the Army's Meningitis Commission, a preliminary tabulation has been made of the frequency of meningitis in relation to duration of military service. This is based on a total of 1,337 cases that occurred in the early part of the epidemic in all parts of the country. This relationship is shown in Table 4, and graphically in Figure 4. Of the total cases, 57 per

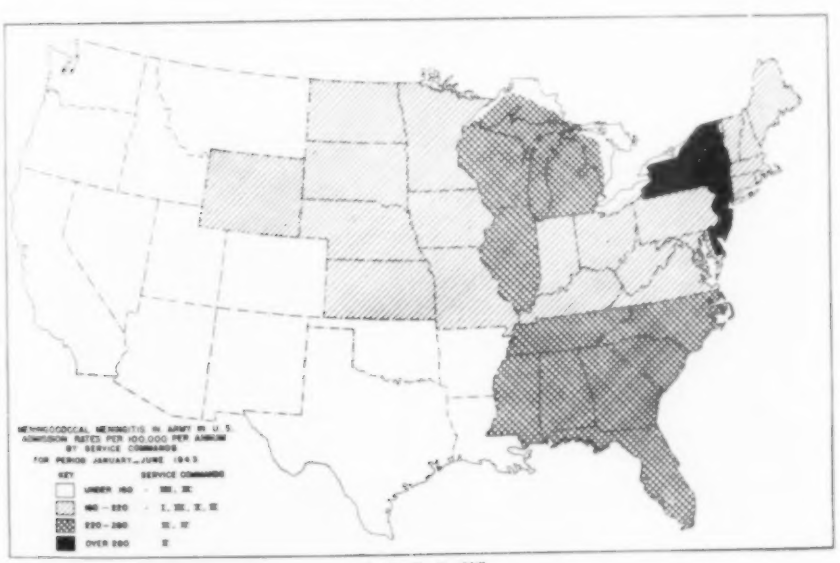
TABLE 3

Meningococcal Meningitis in Army in United States

Admission Rate per 1,000 per Annum, by Weeks

Week Ending		*Week Ending*	
Oct. 3, 1942	0.16	March 6, 1943	2.69
10	0.11	13	2.70
17	0.17	20	2.80
24	0.13	27	3.10
31	0.21	April 3	2.97
		10	2.55
Nov. 7	0.21	17	2.60
14	0.22	24	1.82
21	0.32	May 1	2.03
28	0.53	8	1.85
		15	1.45
Dec. 5	0.49	22	1.55
12	0.77	29	1.27
19	1.09	June 5	1.15
26	1.14	12	0.99
		19	0.75
Jan. 2, 1943	1.55	26	0.74
9	2.02	July 3	0.95
16	2.08	10	0.77
23	1.73	17	0.63
30	2.08	24	0.56
		31	0.53
Feb. 6	2.51	Aug. 7	0.42
13	2.25	14	0.65
20	2.79	21	0.41
27	2.77	28	0.38

FIGURE 3


MENINGOCOCCAL MENINGITIS IN ARMY IN U. S.
ADMISSION RATES PER 100,000 PER ANNUM
BY SERVICE COMMANDS
FOR PERIOD JANUARY–JUNE 1943
KEY
SERVICE COMMANDS
UNDER 150 - III, IX
150 - 220 - I, II, V, VI
220 - 290 - IV, VII
OVER 290 - II

cent occurred in the first 3 months after induction and 29 per cent occurred in the period between 30 and 60 days after induction. Only rarely did men who had been in the Army more than a year develop meningitis. While it is true that these figures must be interpreted with some caution because they do not take into consideration the population at risk in each group, nevertheless they do portray the decided affinity for new recruits. The number of men inducted each month during the year preceding collection of these figures was fairly constant, so it may be assumed that the population by length of service in months up to 1 year was reasonably uniform.

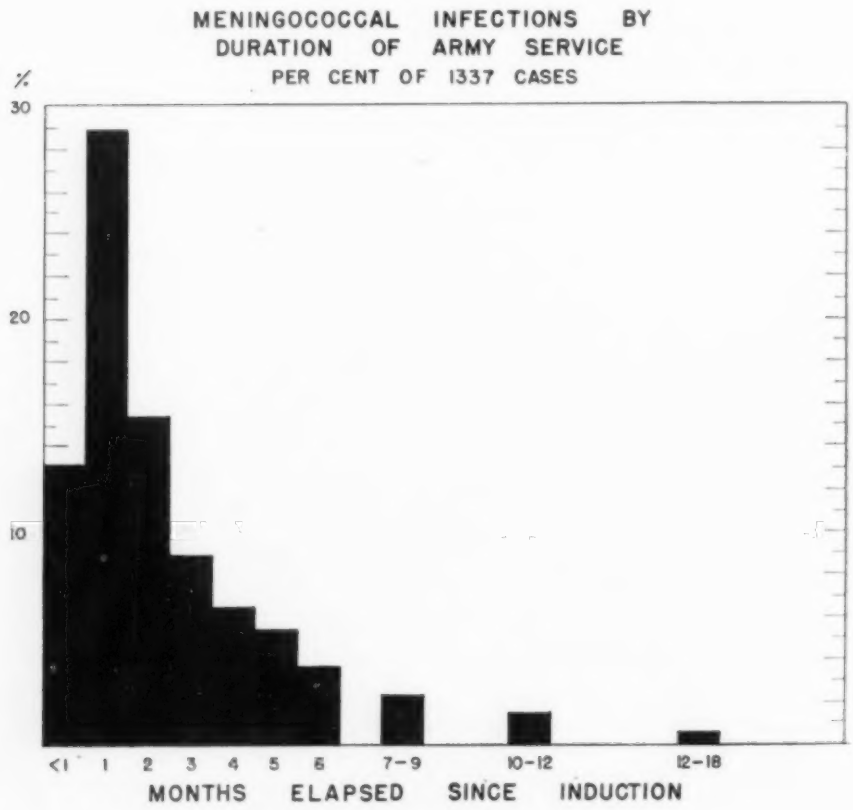
TABLE 4

Meningococcal Infections by Duration of Army Service in Months

Months Elapsed Between Induction and Onset of Disease	*Cases*	*Per cent of Total Cases in Each Month (Average)*
Less than 1 month	175	13.1
1	387	28.9
2	206	15.4
3	119	8.9
4	86	6.4
5	72	5.4
6	51	3.8
7 to 9	88	2.2
10 to 12	65	1.6
12 to 18	39	0.5
18 to 24	24	0.2
24 to 36	12	0.1
Over 36	13	...
Total	1,337	

Meningitis rates tended to be definitely higher in the larger stations.

FIGURE 4



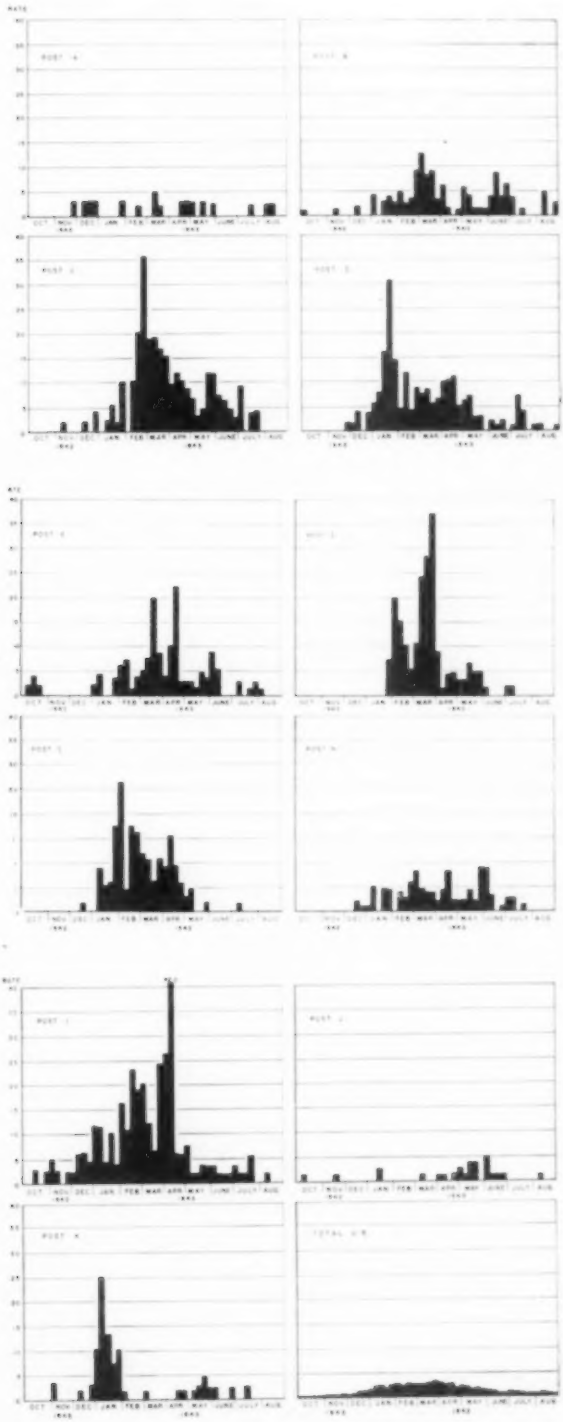


FIGURE 5

MENINGOCOCCAL MENINGITIS

Admission Rates per 1,000 per Annum by Weeks at Army Posts

During the 4 month period, January through April, 1943, the incidence in terms of cases per 1,000 strength per annum was as follows: For all stations with a strength above 20,000 it was 3.2; for those in the range from 10 to 20,000 it was 2.8; and for those of less than 10,000 it was 1.0. This marked difference is believed to be related to the greater proportion of new recruits and more rapid turnover at large stations.

There has frequently been speculation as to the possible association of meningitis and respiratory disease. Both diseases tend to reach their seasonal peaks in late winter or early spring. It has been suggested that increases in upper respiratory disease tend to facilitate the transmission of meningococci from person to person. The association between meningitis rates and the rates for common respiratory diseases (including influenza) was studied in stations above 20,000 strength during the 4 month period from January through April. Ports of embarkation, general hospitals, maneuver areas, and urban centers consolidating several units were omitted from this study. A fourfold association table was constructed dividing the stations into those having rates above and below the mean for meningitis and for common respiratory disease. A statistically significant positive association between the two variables was found. It was noted that in several stations secondary increases in meningitis followed secondary rises in the incidence of common respiratory diseases. The meningitis peak tended to follow the respiratory peak after a variable period, often 4 to 6 weeks.

Weekly incidence rates at certain posts are presented in Figure 5. These posts were chosen as showing interesting features. They each had a strength of 20,000 or over. Posts A and B are of interest because they are situated less than one hundred miles apart. Post A had a decidedly low rate, without anything that could be called an epidemic during the entire 11 month period of study, from October, 1942, to August, 1943. Its maximum rate in any week was 5 per 1,000 per annum, and its average rate for the period from January to April was 0.8. This post is a recruit reception center where men remain usually less than a week after induction and are then shipped to other stations for training. It is a permanent installation with excellent housing facilities in either brick or well constructed frame barracks. Double decking of bunks is rarely necessary during the winter. The weather at this post was unusually severe. There was a moderate but sustained incidence of respiratory disease lasting from January to April.

Post B nearby is about twice the size of A. It is a replacement training center. Due to military necessity the housing of troops was crowded, with 90 to 100 men in barracks built for 63 men. This situation existed until May but has since been corrected. Common respiratory diseases at this camp reached a fairly high peak in January but declined the next month. A lower secondary peak occurred in April. Meningitis reached a peak in early March, with a less marked secondary increase in June. The pronounced lowering of the incidence in April is probably related to the administration of sulfonamides to a part of the force.

Post C is an Army Air Force basic training center on the middle Atlantic coast. New recruits arrive direct from reception centers and remain for 4 weeks of intensive training. The monthly turnover of troops during the winter was more than 10,000; in fact, during January 27,000 men were received. These troops were quartered in hotels, and it was temporarily impossible to provide the minimum amount of floor space in sleeping quarters which

is generally considered desirable in stations housing new recruits. In June the strength of the force was much reduced and a minimum of 50 square feet provided. Respiratory disease incidence was quite high for a period of 4 months. Meningitis reached a sharp peak in late February and gradually declined with a secondary peak in late May.

Post D is a very large permanent station in the Southeast. Its housing facilities consist of hutments and wooden barracks and are considered good, but some overcrowding was present at times. Two infantry divisions were in training here during the winter. Respiratory disease reached a rather high peak in January followed in 2 weeks by a sharp elevation of meningitis rates. The incidence of meningitis then dropped to a moderate level which persisted until May. Prophylactic sulfadiazine was given to a small part of the force in April.

Post E is another air force station in the South where the strength increased greatly during the winter, necessitating crowding of troops. During the 3rd week in March there was a sharp meningitis peak, with another 4 weeks later. The common respiratory diseases reached a peak incidence during January, February, and March, and declined sharply during April.

Post F is a newly built camp which was still under construction at the beginning of the season. In January and February an infantry division was activated, increasing the strength very rapidly from a few thousand to many thousand men. There was no serious overcrowding, however. This division was made up chiefly of young men direct from civilian life. Practically from their arrival there was an extremely high prevalence of respiratory disease which fell to normal levels in April. Meningitis rose abruptly and attained a rate of 37 in the last week of March, after which it dropped even more abruptly to rates of less than 5. Sulfadiazine was administered to half the division at the height of the epidemic, undoubtedly influencing the subsequent picture.

Post G had an experience quite similar to several already described. Practically no cases occurred outside the period from January to May. This is a southern infantry replacement training center which receives men from recruit reception centers and gives them several months of basic training.

Post H is a southern station in the same state as posts E and F. Two infantry divisions were trained here and field maneuvers were held during the winter. The point to note here is the fairly constant level of incidence of meningitis from January to June, without any marked fluctuation.

Post I is located in a middle western state. It is a large Army air force basic training center. Upper respiratory disease, atypical pneumonia, and meningitis have been more or less constant problems at this post for some time. Meningitis increased steadily to a peak of 42.2 per 1,000 per annum in early April; this is the highest rate attained by any of these eleven stations. It then dropped abruptly to an endemic level of 2 to 3 per 1,000. The respiratory rate was moderately high from December through March, with a peak in February. Several of the same factors have been operative here as at post C; namely, overcrowding and the reception of large numbers of new troops who remain long enough for susceptibles to come down with these diseases and then are replaced by new groups.

Post J is in a midwestern state and its troops are garrisoned principally in permanent buildings. The buildings are scattered over a wide area and there has been no overcrowding. It is a field artillery school and its personnel on the

average consist of distinctly more seasoned troops than make up most of the other stations discussed. It had the lowest incidence by far of both meningitis and respiratory diseases of the eleven stations, the highest meningitis rate being 4.7 and the average for the period January through April being 0.4.

Post K is in the Pacific Northwest. Two infantry divisions were located here, one of them activated in December. Overcrowding was a definite feature of this camp during the winter. In December, immediately after activation of the division, there occurred an explosive but short-lived respiratory outbreak which produced an incidence nearly twice as high as at any of the other eleven stations. Meningitis appeared in January, reaching its peak in the middle of the month, and then dropped off moderately. At the end of the month sulfadiazine was given to almost the entire force and meningitis practically disappeared. This was the first large-scale use of the drug for such a purpose. Only sporadic cases have since occurred.

The last graph depicts the rate by weeks for the entire Army in this country. It is clear from this that most of the stations discussed had rates far above those for the country.

Among the comments made by medical inspectors at posts where meningitis occurred, none was more frequent than the statement that there was generally no direct relationship between cases. Seldom could a contact even of a casual nature be shown with a previous case when a new case developed. The control measures employed varied to some degree but included daily medical inspections of contacts for at least 7 days. In some posts partial segregation (working quarantine) of contacts was practised but this is not considered an effective measure. Suspects and cases were promptly hospitalized. Measures were adopted to reduce overcrowding both in barracks and at gathering places. Other measures specifically aimed at safeguarding sleeping troops against transmission of respiratory organisms were employed; such as head to foot sleeping, "cubiclization" by means of shelter halves, and the insurance of proper ventilation.

Sulfonamides were administered to large numbers of troops in several of these stations with apparently striking effects in reducing the incidence. This is unquestionably a most important development in meningitis control, but its consideration is beyond the scope of this paper. A circular letter has now been issued by the Surgeon General outlining the indications for this procedure.

We have no evidence that the cases encountered in this epidemic were any less severe than in other outbreaks. However, sulfonamide therapy has been extraordinarily effective and the case fatality rate has been below 5 per cent or, roughly, one-tenth as high as during the 1918 epidemic. In a large number of cases the diagnosis was meningococcemia and invasion of the central nervous system did not occur, due presumably to the prompt administration of sulfonamides.

SUMMARY

1. Review of the Army incidence of meningococcal meningitis during the past year is presented.

2. The incidence has been somewhat lower than in 1918, but the outbreak has been comparable in various ways to that in the first World War.

3. The incidence in the civilian population increased in the same proportion as in the Army.

4. The geographical distribution in the Army was fairly uniform in all regions of the country in contradistinction to the concentration of civilian cases in the eastern and western seaboard states.

5. Data are presented which indicate that a majority of all cases occurred in recruits who had been in the Army less than 3 months, and that the highest incidence was between

30 and 60 days after entry into the service.

6. The definite relationship between size of post and meningitis incidence is shown.

7. The possible relationship between respiratory disease prevalence and meningitis incidence is explored and evidence of association obtained.

8. Rates of incidence by weeks in various posts are presented. Factors influencing the rate are discussed. The principal factor appears to be the presence of a high proportion of unseasoned troops, especially when there is a rapid turnover of such troops.

9. Control measures are discussed. The outlook both for treatment and prevention of meningococcal infections has been radically improved by the sulfonamides.

REFERENCE

1. Simmons, J. S., and Michie, H. C. *The Medical Department of the United States Army in the World War*. U. S. Gov. Prg. Off., 1925, Vol. 9, Chap. IV, p. 203.

Progress in Establishment of Standards on Allowable Concentrations of Toxic Dusts and Gases

At a recent meeting of the committee of the American Standards Association concerned with approval of Allowable Concentrations of Toxic Dusts and Gases, it was reported that 6 standards had been approved during the present calendar year, and that altogether 12 standards had been promulgated under the auspices of the committee since its reorganization two years ago. Senior Sanitary Engineer J. J. Bloomfield of the National Institute of Health represented the American Public Health Association.

The standards now being considered are on methanol, styrene monomer, formaldehyde, trichloroethylene, and acrylonitrile. A standard on toluene has been approved and published. The proposed standards for oxides of nitrogen approved by the committee are now being processed through the Safety Code Correlating Committee.

Considerable discussion was given to the preparation of a standard for silica dust exposure. It was finally decided to prepare a standard which would take into consideration the data now available for threshold limits for various industrial dusts with a silica content. The consensus of opinion was that no single maximum allowable concentration could be developed in view of the fact that no two dusts containing silica have the same effect on health, even when the silica content may be the same.

The chairman was authorized to appoint subcommittees to consider the following standards: methyl chloride, which is now being used in place of Freon as a refrigerant; hydrofluoric acid, fluorine and fluorides; and a standard for exposures in luminous painting to take care of radon, gamma rays, and radium dust.

Objectives in the Programming of Post-war Sanitation Works*

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WE are now engaged in a great war that is testing our capacity to produce, to arm, and to conquer. Because of the success of their planning, we may never know how much we owe to military staff groups who through the years of peace have prepared the blueprints of war. But when military objectives are won, plans will be needed to guide us upon our return to a peacetime economy. We can lose the peace on the home front through a lack of preparedness.

Our battles are being won because military men with a vision stayed with their planning despite the popular belief that war would be no more. It was not easy for them to go counter to the wishful thinking of a nation that wanted peace—and it will not be easy now to gain popular support for the staff work that must be done in the preparation for peace. Unlike the plans for war, the plans for peace must be of, for, and by the people, and acceptable to the majority. It is proper that we should be concerned with the problems of the post-war period and attempt to analyze the conditions that may give rise to emergency situations, and to find in advance solutions for them.

There are those who have questioned the ability of a democracy to meet emergency problems without resorting to the direct action procedure of the dictator. The fallacy of their reasoning lies in their failure to recognize our freedom to anticipate emergencies—and by planning their solution in advance to remove the emergency character of their occurrences. We are not regimented when we plan together for our mutual good.

One of the fundamental principles that give strength to our democracy is the recognition it gives to the freedom of the individual citizen to join with his fellows in the formulation of such governmental policies as may be acceptable to the majority of the group.

The problems of post-war reorganization will retain their emergency character only to the extent that we fail now to anticipate them. This nation can ill afford the social and economic loss that must come if we leave to emergency salvage measures plans for the proper utilization of the most valuable of all our nation's resources—its man power.

Past experience has indicated the value of a public works construction program as a means of providing employment during a period of economic depression. It is therefore logical that our plans for the future should have incorporated in them proposals for the use of this method of employment stabilization. It is easy to classify long lists of needed public works and to envision the material changes that can be brought about by their construction.

* Presented before the Engineering Section of the American Public Health Association at the Seventy-second Annual Meeting in New York, N. Y., October 14, 1943.

It is not so easy to appreciate that material change alone will not make this nation strong or its people happy. There is a need in the planning of our post-war procedures to go deeper than the mere providing of bread alone. We need to recognize that, unless in our planning we keep alive the essentials of true democracy, in spirit our nation can starve in the midst of material plenty. Certain basic principles are essential to the continued vigor of our democracy, and in our planning for the post-war period it is important that we recognize these principles and thus establish better the very foundation of our government.

There are many would-be Aladdins who long for a magic lamp to conjure up the objects of their wishful thinking and who envision a post-war world, limited by their conception of what that world should be. Unconfessed dictators at heart, they would impose their particular pattern of perfection by fiat act. Material progress can, and in emergency sometimes must, be made in this way, but the principle is foreign to the spirit of the cause for which we fight.

Any progress that is made without full recognition of the essential need for an informed and responsible electorate will be based on the shifting sands of political expediency without adding to the stability of a free government of the people. Freedom of action is equally essential to the spiritual growth of an individual and to the civic development of a town or city. This freedom is also essential to the vitality of our democracy. Mistakes must be eliminated, not by removing the freedom of individual or group action but rather by the slower process of educating the majority. Real governmental leadership will have been achieved when, through the advantage of careful, economic, social, and engineering analysis, factual information will make it possible for an informed electorate to assume its proper civic responsibility.

Because of national emergencies, first economic and then military, it has been necessary to expedite construction programs through administrative procedures that have emphasized the speedy attainment of essential national objectives. The immediate success of these procedures in meeting emergency situations makes an appeal to those who are thus relieved of local responsibility.

Should emergency measures that do not require a mature civic response on the part of the majority become permanent, it is inevitable that there will be a loss of civic interest that can lead to an eventual loss of civic liberty. As citizens of a democracy, we must respond to the trust that this form of government places with us and face civic responsibility free of the immaturity of wishful thinking—or we will not be worthy of or long retain the freedom that we now enjoy.

The development of a program of post-war public works will have missed an essential objective if there is a failure between the planning and construction stages to develop a local interest in and civic responsibility for the proposed improvements.

The encouragement of local civic interest in public affairs, including public works, is so essential that the development of governmental procedures which will not only promote but will require this interest may well be a basic objective in programming post-war sanitation works. This will require an integration of the functions of local, state, and federal governments in the planning and development of public works in order to accomplish the program without a usurpation of responsibilities that should remain with local government, on one hand, and an uncoördinated effort that would fail to provide a maximum national benefit, on the other.

A second major objective in the programming of post-war sanitation works may well be the development of procedures that will encourage the planning of projects sufficiently ahead of the construction period and in such detail as to permit a thorough understanding of the objectives to be attained. The development of a proper civic interest in proposed public works requires that there be a time interval between the design and the construction stage of a project to permit an educational presentation to the public of the need for the project.

There should be a more general public appreciation and acceptance of the value of basic engineering data in the design of public works and of the time required for the development of the proper design. Back of every properly designed engineering project there must be a well defined objective—it is the vision of that objective that gives incentive to the engineer to translate it into reality. The need for public works is evident to the engineer responsible for the maintenance of a service facility long before there is a public consciousness of this need. The public tacitly pays homage to the engineering planning back of the completed structure by the ready acceptance of its usefulness. Unfortunately, the same public frequently forgets that the design must be based on a careful engineering analysis of factual data if the completed structure is to be the most effective and economical solution of a public need.

As we study tomorrow's problems, we recall the unemployment emergency of a few years back—and the popular demand for the immediate starting of public construction work. We should not forget that this emergency need for employment found us unprepared for the effective utilization of the man power then available—and how the public works official was expected to do the impossible—to provide worth while construction projects without the guidance of adequate planning.

Credit is due to those who faced that emergency and through whose efforts much was accomplished. That was an emergency period and our failure to be ready to undertake the responsibilities that came with it was understandable if not excusable. To have failed to learn by that experience is neither.

We are prone to envision programs of post-war public works against the background of a program that was designed to meet an emergency situation. If our future public works programs are to be most effective in stabilizing a national reëmployment situation, certain controls may be necessary to insure the scheduling of construction work at such levels of activity as may be necessary to avoid either a wasteful surplus or a shortage of the necessary supplies and labor.

The post-war public works program will have failed in a proper objective if it functions only after an anticipated situation has been allowed to become an emergency.

We can face the complexity of these post-war problems and attempt to reach rational solutions—or we may become lost in the confusion of conflicting interests and forget that the freedom we enjoy can be had only through the acceptance by the majority of necessary rules of orderly procedure.

We may wait until dole-like contributions of federal funds are necessary to stimulate a sick domestic economy—or we may in government, as in public health, recognize that prevention is better than a cure, and provide the funds necessary for advance planning.

A post-war public works program will be of value in the stabilization of employment to the extent that there is at all times an adequate reserve of planned projects ready for construction, and a

public willingness to schedule their construction to meet this need.

A reserve of planned public works projects will require more than the mere tabulation of recognized public needs. Advance planning will require the completion of detailed engineering studies and the preparation of engineering reports. It will require that there be an acceptance of the project by the sponsoring community and the completion of necessary legal and financial clearances for construction. The orderly development of a reserve of planned public works may well require that there be a coördination of governmental interest, local, state, and federal, in the planning of projects for deferred construction. The maintenance of an adequate reserve of planned public works to attain a national objective of effective employment stabilization may require that there be an acceptance of some control of possible over-expansion of construction activity.

Through a properly integrated program of public works, this nation can achieve a standard of national well-being beyond our present expectations. There is little need to catalogue the improvements that can be made in the field of sanitation—they are known to most of us.

If we truly believe in a democracy and are willing to work at keeping its principles alive, we can have this material progress and at the same time save the spirit that has made this nation great. If in the planning for the future we neglect democratic procedures, our public works may well become but a monument to a decadent civilization.

The Battle for Health*

A Radio Script

IRVE TUNICK

Radio Adviser to the New York Local Committee for the Association's 72nd Annual Meeting

(Music.....Organ fanfare...)

Announcer: The Columbia Broadcasting System, in coöperation with the American Public Health Association, presents: The Battle for Health!

(Music.....Strong chord, fading out as.....)

Announcer: This week, in New York City, public health officials from almost every republic of the Americas and representatives of the United Nations, are meeting for the Wartime Public Health Conference...For them — — and for all Americans — — the Columbia Broadcasting System presents this program on The Battle for Health. Later in the program you will hear Surgeon-General Thomas Parran of the United States Public Health Service introduce Brig. General James S. Simmons, this year's recipient of the Sedgwick Memorial Medal for "Outstanding Achievement in Public Health."

(Music.....Fanfare....)

Narrator: We are going to paint three pictures — — two portraits and a mural. Together they will form a sketch — — — a panorama of the Battle for Health. Many names and events brilliant in the history of public health will not be mentioned — — but their value is inherent in the story we tell. The Battle for Health has not been a series of isolated skirmishes. It has been — — is today — — an all-out, all-encompassing war against the greatest enemy of man — — disease!

(Music.....Chord...)

Narrator: I wonder if you have ever heard of Lemuel Shattuck? He was a Boston citizen — — born in 1793, died in 1859. In those days, as in our own, men were quick to apply the epithet — —

Haggard: (In fast) Radical! Agitator!

Shattuck: That will be enough of that, Mr. Haggard!

Haggard: You deny it, Mr. Shattuck?

Shattuck: Deny what?

Haggard: That you are appearing befor this legislative committee with no other thought in mind than to arouse the people of Massachusetts into a frenzy of fear? Why? So that the medical profession can grow rich on the fruits of fear! You keep shouting "Disease!" "Plague!" "Death!" And the people shudder and shake and come running for potions!

Shattuck: That's a vile thing to say.

Haggard: Is it, now?

Shattuck: What I propose would cut

* Broadcast over the Columbia Broadcasting System in connection with the Association's 72nd Annual Meeting in New York, N. Y., October 14, 1943. This program was arranged through the coöperation of Leon Levine, Assistant Director for Education, Columbia Broadcasting System, New York, N. Y., and directed by Richard Sanville.

down the income of every physician in the state. It would make our people healthy.

Haggard: So — — — — now you are a philanthropist!

Shattuck: I am merely a man seeking to better the lot of the people of this country. I don't know why you — — — — and the other politicians — — — are so against my proposal!

Haggard: Then permit me to enlighten you, Mr. Shattuck. We consider your proposals unnecessary, unGodly — — — and unconstitutional!

Sound: Applause and murmur of Approbation

Shattuck: I don't understand why. This proposal is the result of an intensive study of the health conditions of Boston made at the suggestion of some of our leading citizens as well as those of the medical profession. Our report speaks for itself. Conditions in this city are abominable. It is a disease-trap — — — — a plague-center — — — —

Haggard: (Interfering) I will not hear the good name of our city of Boston so defamed!

Shattuck: Defamed? Good Lord! Since when are facts libelous? Listen to me — — — — don't interrupt! I want you to understand every word of what I say . . . I won't annoy you with statistics — — nor with descriptions of what we saw — — I don't think your fat stomachs are strong enough to take it. But I will give you some choice warnings . . . Listen to them — — unless we take immediate action — — prompt, efficient, all-embracing — — the population of Boston — — the whole state for that matter — — is facing the greatest catastrophe in the history of our nation. Smallpox, malaria, cholera, yellow fever, consumption, and a dozen other deadly diseases are ripening right now in the overcrowded, unsanitary slums of Boston. You talk of the good name of Boston! Rot! You're no more interested in Boston than I am in Siam! You represent intrenched, vested power! You fear a progressive, healthy, alert-minded populace! That is why you are against this bill to set up in the city of Boston a board charged with the responsibility of supervising the public health . . Deny that — —

Haggard: I do deny it!

Shattuck: Then why do you fight this proposal?

Haggard: I fight it on the Holy ground that God proposes and God disposes. If it is His will that plagues and disease kill the sinners — — then they must die! I fight your proposition on the ground that it is unconstitutional — — nothing in our basic law provides for the setting up of such an agency as you suggest. That is my stand!

Shattuck: You dare to call on His name to back your perfidy! Why did God, then, permit Jenner to discover the secret of vaccination? If it was His will to destroy, why did he let the genius of man discover a way to circumvent His anger? Why? Is it blasphemy to save the poor and sick?

Haggard: I — — — — I did not mean that.

Shattuck: You say it is unconstitutional. I say it is basic democracy — — and therefore the very essence of our Constitution! The agency we would set up would be empowered to abate sanitary nuisances — — check up and report on the appearance of contagious diseases in our community — — vaccinate against the

smallpox — — control the distribution and the use of patent medicines! Why — — this would be the people's health insurance — — paid for by them, controlled by them, dedicated to their own betterment. As for the Constitution — — there is a phrase in it concerning the Pursuit of Happiness, I believe — —

Haggard: Yes — —

Shattuck: There is no happiness for the sick and the afflicted. There is no freedom for the child chained to slums and fever — — nor for his parents — — weak and crippled by disease. That is my answer to your objections —

Voice: (Off mike) Wait! I want to speak —

Haggard: Who are you?

Voice: (Coming on mike) Just a plain man of Boston. From the Fourth Ward . . . Your Ward, Mike Haggard. Man, there is only this to say . . . We want to be protected against disease. This man says the way to do it is by setting up a health agency. You do it, Mike Haggard — — you hear me — — — you do it! We people want it — — — — and we'll get it! You do it, Mike Haggard — or just as sure as the sun comes up over the Cape, you'll be patching your pants come next election!

Haggard: My dear constituent, I — — —

Voice: I'm going back to the neighborhood, Mike — — and tell the folks what I've heard! Will I tell them you will deny us the right to live? Eh, Mike Haggard?

Haggard: No — — No, of course.

Voice: You will vote for this bill?

Haggard: I — —

Voice: Speak up, man — — how will you vote?

Haggard: I — — I will vote for the bill!

(Music: Tag, full, up and under . . .)

Narrator: That is the first portrait — — Lemuel S h a t t u c k — — crusader, pioneer, fighter for health. Lemuel Shattuck sparked the flame of democracy in the hearts of the people — — and the people acted. The health department he fought for was established — — the first such health organization on this continent. Perhaps it was Shattuck who first inspired Stephen Smith. That was in New York — — the year — — 1864. Stephen Smith — — a young physician battling for the health of the million crushed within the limits of the City of New York. A typhus epidemic was sweeping the city, and Smith was put in charge of the hospital tents pitched on Blackwell's Island. He soon was an old hand at filling out death forms — —

Smith: What is the name of deceased, Billy?

Billy: Er — — let's see — — kind of hard to make out on this tag. O — — O'Donnell, I guess it is. That's it — — O'Donnell — — Molly O'Donnell.

Smith: Address?

Billy: Address now — — Ah — — er — — East 22nd Street!

Smith: Another!

Billy: Eh?

Smith: That's the eighth death this week from that same block!

Billy: No wonder. I know the place. I do. A little patch of brimstone in a furnace o' Hell!

Smith: Bill — — will you take me there?

Billy: You?

Smith: Yes.

Billy: And why would you want to be going to such a dive?

Smith: I want to see how the people live.

Billy: The answer is that they don't live like people, Dr. Smith — — 'tis more like cattle — — and starved cattle, at that.

Smith: Immigrants?

Billy: Aye.

Smith: Come on, Billy — — I want to see the place.

Billy: Right you are. Only plug up your nose and belt in your stomach — — 'tis not the Garden of Eden you're visiting!

(Music: . . . Tag in and out. . . .)

Sound: Off mike voices — — squeals of kids running about

Billy: Whew — — and hold your nose, Dr. Smith!

Smith: (Gasping) Lord — — what a stench — —

Billy: 'Tis a well-mannered word you use.

Smith: What holds this place together?

Billy: The smell. It cements the rotten walls.

Smith: How many people do you figure live here, Billy?

Billy: None that live. About six to a room that exist.

Woman: (Coming up — — Irish) And what would you be wanting?

Smith: I'm Dr. Stephen Smith — —

Woman: Get out!

Smith: But — —

Woman: (Calls) Pete!

Smith: Now, madam, I am only — —

Pete: (Coming up) What is it?

Woman: This one has come to see the sights.

Pete: So? Pretty — — what?

Smith: I'm a doctor. I've come because — —

Pete: Because what?

Smith: Because there have been eight deaths from typhus registered from this address this past week.

Pete: Eight? Man, you're way off. Eighteen, maybe. We don't count.

Smith: Why do you stay here?

Pete: And where might we be moving to? The Astor mansion?

Smith: There are other tenements?

Pete: Aye — — with rent to pay.

Smith: You don't pay rent here?

Pete: We come and go as we please.

Smith: Who owns the property?

Pete: The devil himself.

Woman: Make him get out, Pete. We don't want him here.

Pete: Aye. Out with you — —

Smith: But — —

Pete: Out! Don't you have no respect for the dying? We're dying — — let us alone to die in peace!

(Music: . . . Tag in and out. . . .)

Bryant: I know the state of the slums in this city, Dr. Smith — — but what do you expect me to do. I am a newspaper publisher — — —

Smith: Mr. Bryant, I've found out who owns the property. It wasn't easy — — because he kept his name fairly well hidden. But now I know it — —

Bryant: Who is it?

Smith: Never mind the name — just believe me when I tell you that he is one of the biggest men of the city. I have spoken to him. He refuses to renovate the place and make it habitable. There's only one way to make him act — —

Bryant: How?

Smith: Threaten to expose the conditions of his property in the public press — —

Bryant: Hm-m-m — —

Smith: Let me have three reporters — — I'll get action — —

Bryant: Right! Let's see if it works — —

(Music: . . . Tag in and out . . . .)

Sound: Street noises

Smith: Here comes his carriage now. When he gets out — — go to work.

Voice 1: Watch us, Dr. Smith — —

Sound: Horses up to stop

Sound: Carriage door open and man getting out

Reporter 1: Ah — — Mr. Cooper — —

Cooper: Er — — yes.

Reporter 1: I'm from the *Evening Post*. Mr. Cooper do you have a statement to give us about your property on East 22nd Street?

Reporter 2: They call it a fever nest? What's your opinion, Mr. Cooper?

Reporter 3: Is it true that there is no provision made for the disposal of sewage in your tenement?

Reporter 1: How many people have died of — —

Cooper: What is the meaning of this?

Reporter 2: Just getting the facts for a newspaper story.

Cooper: Newspaper story? Uh — — ah — —

Smith: Mr. Cooper — —

Cooper: Dr. Smith. Please — — please — — come into my office with me.

Smith: What for?

Cooper: Ah — — er — — I've changed my mind about that tenement. Yes, indeed. I — — I'll renovate — — clean it up — — anything — — but please, Doctor — — call these men off! They musn't print a word!

(Music: . . . Triumphant tag in and under . . . .)

Narrator: Stephen Smith's one-man crusade paid large and wholesome dividends. The glaring violations of the simplest principles of health that existed in the slum-centers of New York inspired a group of public-spirited physicians and laymen to take positive and immediate action — —

(Music: . . . Out . . . .)

Smith: There's only one way to get the facts and prepare laws and measures to improve conditions — — an intensive, city-wide survey of conditions. I have called on you younger physicians to act as sanitary inspectors. The entire city has been divided into zones — — each one of you will be assigned to a single zone. Here's what we want! A complete, exhaustive report on conditions — — the number of people in each room — — the state of their health — — sanitary conditions — — each and

every fact bearing on the health of the individual. It will take time, money, effort. There will be only one reward — — a cleaner, better city. I ask for your coöperation. Do I get it?

Sound: Shout of many voices in affirmative as

(Music: . . Tags solemnly and under . .)

Narrator: The report of this sanitary inspection of New York City in 1865 is a classic, a masterpiece of stark, tragic, almost nauseating prose. A few excerpts — —

Voice 1: In 17 blocks, 55 houses contain 246 persons living in cellars completely underground — —

Voice 2: The mother, a wrinkled crone at thirty, sits rocking in her arms an infant with pasty and pallid features that tell that decay and death are usurping the place of health and life.

Voice 3: Sitting together upon the same broken box, lying together upon the same dirty straw, covered by the same filthy shreds, you have a picture of a mass of corruption and squalid misery gathered inside the walls of the unventilated building.

Voice 1: The attic rooms are used to deposit the filthy rags and bones that are taken from the gutters and slaughter-houses.

Narrator: Enough! But remember this — — these were not isolated conditions, found only in New York — — they were identical with the unsanitary, the fever-breeding, the death-nourishing melting pots of humanity found in almost every city of every nation on the globe. It was the result of an industrial revolution that forgot the human decencies. But times were changing. In 1865 — —

Voice 2: A Bill to promulgate a Metropolitan Health Law!

Narrator: Passed! Passed by the representatives of the people for the people's own protection! The repercussions of this triumph for municipal cleanliness were world-wide! Administered by intelligent, scientific authority, the health agency set up by the Metropolitan Health Law quickly justified its existence — — cholera disappeared from New York. Malaria, dysentery, typhus all were attacked — — all were vanquished! The death rate was halved — — halved again — — and in almost every city in the United States, the results of sanitation and regulated public health were paying tremendous dividends in human life. The Battle for Health was joined — — the issue was never in doubt!

(Music: . . . Up full, triumphantly and out)

Sound: Outdoor noises — — birds, etc. — — steady hum of automobile motor, broken occasionally as car bangs over a bump in road

Soper: Stop here, Bruce — —

Sound: Car up and out

Soper: (Calls) Hallo! (Pause) Hallo! Anybody around?

Wilson: It gives me the creeps, Fred — — a valley of ghosts!

Soper: (Sighs) Just about! Nobody around, I guess — —

Wilson: Probably all run off to the North — —

Soper: Not all — — look at those graves.

Wilson: Umm-m — —

Soper: (Cynically) The great and fertile valley of the Jaguaribe — — Brazil's inland empire! Look at it!

Wilson: Empty huts — — broken doors — —

Soper: And why? (Vicious slap) Because of this — a mosquito!

Wilson: Not just a mosquito, Fred — — give credit where credit is due — — a very special mosquito. Hail the Caesar of the insect world — — *Anopheles gambiae!* (Lowers voice) *Anopheles gambiae* — — dirty little devils! Come on — — lets get out of here!

(Music: . . . Tag in and under . . . .)

Narrator: And this was not decades ago. This was 1938. 1938! Years after Pasteur had proved the germ theory — — Lister had demonstrated the power of sterilization — — Koch had discovered the tubercle bacillus and Ehrlich had reached the magic number of 606. Florence Nightingale had long passed away — — the names of Walter Reed and William Gorgas were in history. Landsteiner had typed blood and sanitary engineering was an honored profession. 1938! The scourge of typhus had almost disappeared from the earth — — cholera was driven back to the wild hills of Asia from whence it came — — diphtheria was conquered — — yellow fever was only a grey memory on the American continent — — the death rate from tuberculosis was slowly — — but surely — — falling! 1938 — — and an authority could still predict:

Voice: If gambiae malaria is not eradicated at once, a large part of Brazil and many other countries on the American continent face almost certain disaster!

Narrator: This was 1938!

(Music: . . Up dramatically and out . .)

Barreto: It is an interesting proposal you make, Dr. Soper — —

Soper: The reconnaissance trip Mr. Wilson and I have just concluded through the stricken area, Dr. Barreto, fully justifies these recommendations — —

Barreto: But complete species eradication — — that — — that is rather a startling thing. Ambitious — — perhaps too — —

Soper: One hundred thousand people have become affected — — about 20,000 have died — — since gambiae malaria entered Brazil! This specific type of malaria is rare and deadly — not the usual curable form of the disease. The only way to attack is to kill — wipe out — eradicate the source! And we can do it — —

Barreto: How?

Soper: We have a number of things on our side. One, the nature of the insect itself. Luckily, it's highly domesticated — — it only breeds near humans. We don't have to worry about it spreading in the unpopulous jungles and swamps of the interior.

Barreto: Yes — — that's true enough.

Soper: Second. we have some weapons at our command. The Yellow Fever Service that has so successfully controlled and eliminated that disease from Brazil can give us trained personnel.

Barreto: But the Service is hardly large enough to attempt species eradication of this mosquito.

Soper: Then we'll expand it! It will be expensive — — the Lord only knows how much it will cost — — but it must be done. I can only speak for the International Health Division of the Rockefeller Foundation. We are willing to contribute

money and time — — trained personnel and equipment.

Barreto: All right, Dr. Soper. I can speak for the government of Brazil. We will appropriate the necessary funds and make the suggested transfer of personnel from the Yellow Fever Service. When do you think we should start?

Soper: Now. Right now. And it's not one minute too soon!

(Music: . . Tag in and up and under . .)

Narrator: Now the combined wrath and genius of the Americas was turned on *Anopheles gambiae*. The spindly, brownish-yellow killer that had smuggled its way into the New World early in 1930, perhaps on a fast French destroyer, was the tiny object of the greatest man-hunt in modern history. The Malaria Service of the Northeast was not a haphazard collection of scientists, day laborers, and hangers-on! It was war — — and like all phases of modern conflict — — planning and organization preceded every move! The General Staff planned its strategy — — the cartographers made maps — — the engineers made surveys — the intelligence made reports. Then — — only then — — the infantry went into action — —

(Music: . . . Out . . . .)

Sound: Knock on door

Woman: (Off mike) Who is there?

Pablo: Disinfecting squad.

Woman: Oh — — come in.

Sound: Door open

Pablo: Good morning. Where is the bedroom?

Woman: Back there. My husband is still asleep.

Pablo: Umm-m. In here, men.

Sound: Footsteps — — door open

Sound: Deep snoring of man

Pablo: All right — — open the umbrella — —

Woman: Umbrella?

Sound: Umbrella opening

Pablo: Yes. We use it to catch mosquitoes. Watch how. First we open it. It is square, you see — — that is to make it easy to get into corners. Now — — over the umbrella, I use my spray gun loaded with insecticide — — like this — —

Sound: Flit gun

Pablo: You see — — the mosquitoes that hang on the roof and the walls fall into the umbrella. So.

Woman: Then?

Pablo: Then we gather all the mosquitoes — — put them in a box and send them to headquarters at Fortaleza. They examine them and see how many gambiae we have caught! That's how they know how to control the disease. You understand?

Woman: I — — — — I think so. (Suddenly) Joao! Joao!

Joao: (Suddenly aroused) Eh? Ah?

Woman: We are being disinfected. Get up!

Joao: (Sleepily) Oh — — — — — — Oh, yes. How do you do?

Pablo: How do you do. We are sorry to disturb you, sir. We will start with this room and then work through the house to the kitchen.

Joao: (Getting up and yawning) I am going to the kitchen — — — —

Woman: To eat?

Joao: No — — — — to sleep. (Yawns) Wake me up when you get there.

(Music:..Tag in and up and under..)

Narrator: The disinfecting squads used insecticides in the homes and Paris green on every pool of open water they could find. Chief inspectors checked their work — and Post inspectors checked on them — — — — — it was an army of thousands battling an enemy of millions. Quickly the people of Brazil realized that here was a fight for their own existence. They changed from casual onlookers to active participants — — — it became a national crusade. And then the map began to reveal wonders!

Voice 1: December, 1939 — — — — — — Gambiae has disappeared from Cascavel and Quixada — — — — —

Voice 2: March, 1940 — — — — — Gambiae has been driven out of Assu and Ico!

Voice 3: May, 1940 — — — — — Gambiae has been eliminated from Jaguaribe!

Voice 1: July, 1940 — — — — — Gambiae has disappeared from Coera Mirim — — — — —

(Music:....Strong chord.....)

Narrator: Back — — — — back from the interior — — — — back almost 1,000 miles to the Atlantic Coast — — — — — the invader was driven! By September, 1940 — — — two years from the start of the campaign — — — *Anopheles gambiae* — — — scourge of Africa — — — was wiped off the face of America. Gone — — — — — — eradicated — — — finished! They said it could not be done — — — — — and it *was* done! Done by the united action — — — — the united genius of the Americas! Take pride in that — — — all you of America — — — hear this, and be proud. Gambiae malaria is gone — — — — — gone into limbo along with typhus and cholera and yellow fever! Will it return? Will the other scourges return? There is only one answer — — — vigilance — — — constant, sleepless vigilance! In the Battle for Health, all free people are united! In the Battle for Health, there is never a truce! Keep alert, America — — — — keep strong and ever healthy!

(Music:...Sweep up full and out...)

Narrator: This week — — — — in New York City — — — the Wartime Public Health Conference has met the problems of disease control in a battle-torn world. The manifold difficulties of public health under these conditions is being met by united action and modern scientific control! The public health officials of the Americas and the United Nations are the staff officers in this eternal struggle for human life — — — — they are the key men, the pioneers in this never-ending crusade for better health — — for a better world!

(Music:...Up full and out....)

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A NEW INTEREST IN CHEMOPROPHYLAXIS

HOPES for effective *prophylaxis* in relation to communicable diseases have undergone a sort of ebb and flow in the past fifty years, as has the use of the word itself. In the beginning of this century, prophylaxis was a somewhat generic term implying a shot-gun pattern of action where one relied upon many vague doings rather than upon any one specific procedure or agent. Aside from quinine, perhaps only the asafoetida bag was conceded specific prophylactic virtues. The latter went out of fashion a generation ago, but quinine retained its reputation as a malaria preventive for a long time, until the experience of troops in areas where malariæ is endemic rather strongly emphasized to medical officers a fact already known to malariologists, to wit, that the so-called prophylactic use of quinine, or atabrine, does not really prevent malaria.

It may be said, then, that during the past few decades the tide of interest in specific prophylaxis has been strongly on the ebb. At the moment, however, there seems a modest flood of hope, in that reports of research and experience in the prophylactic use of sulfa drugs are now beginning to appear in scientific journals. One is encouraged to believe that these drugs may give definite protection against gonorrheal infection, and may sharply reduce the number of meningococcus carriers, presumably lessening the individual's likelihood of contracting the disease caused by that organism.

For the most part, experiences in the prophylactic use of sulfa drugs in relation to gonorrhea and meningitis have been in the military services where conditions for observation are much more favorable than in civilian populations. How effectively agents of this sort may be employed in extra-military health work remains a question. Scattered civilians are not in the same category as a concentrated military group, where individuals are given leave only at known intervals and are under rather rigid discipline and observation before and after that leave. It must be recognized, therefore, that in civilian life, and in relation to gonorrhea, exposures do not occur at intervals in a predetermined and somewhat periodic schedule but at various times, as the possibilities of a given situation develop. Certainly one could not go on a sulfa drug diet, just in case. In further

relation to chemoprophylaxis against gonorrhea, two other considerations would inevitably arise. First, from a medical standpoint there would be some danger in self-dosage; and, second, there would be objection by those who sincerely believe that to encourage prophylaxis would be to stimulate immorality and condone sin. On the other hand potentialities for the application of antigonorrheal drug prophylaxis in civilian life are not to be brushed aside merely because of difficulties. It is a subject worthy of exploration along many lines: scientifically, administratively, psychologically.

In the meningococcus meningitis situation, there are not so many barriers to the use of a prophylactic drug in selected instances. It would not be possible, even if desirable in the face of an epidemic of meningitis, to give prophylactic doses of a drug to an entire local population, just as it is not practicable to provide a passive immunity for all susceptibles who might possibly have been exposed, say, to measles or diphtheria. But chemoprophylaxis would be practicable in situations where cases of the disease were occurring in somewhat segregated groups of individuals. Thus, in young men in dormitories and in similar domiciliary concentrations in which meningococcus meningitis tends toward a high prevalence, specific prophylaxis under medical direction would be a measure of great importance.

Regardless of whether or not there is a sound foundation for these early promises of the prophylactic effectiveness of sulfa drugs in the diseases mentioned, this new interest in chemoprophylaxis will undoubtedly stimulate research as to possibilities with other drugs and with other diseases, and will add a badly needed fresh note to the whole subject. At best, of course, this type of protection would be transient, not comparable to a previously established and continuing active immunity. But pending the development of new antigens, and particularly in the emergency of war, new explorations in chemoprophylaxis are more than justified. It might even result in the development of a real prophylactic against malaria which, from a military standpoint, is an outcome that might well change the fortunes of a campaign.

THE EXPANDING HORIZONS OF PUBLIC HEALTH

IT would be difficult today to discover an intelligent person with a social conscience who is unaware of the recent sessions of the Council of the United Nations Relief and Rehabilitations Administration and something of the public health significance of this global effort to meet the world's critical needs. Elsewhere in this issue will be found a condensation of those reports relating to health which have come out of the sessions in Washington and Atlantic City and which should supplement the general information which has already appeared.

Those who went through World War I and were involved in the post-war efforts toward relief point to the advantage in facing these needs in a broad and systematic manner before the military phases of the war are ended and with free access to the resources of the United Nations, both material and personal. Some lessons learned 25 years ago have already given relief efforts an important advantage in the present emergency. There is more orderly planning, there are better established channels of action between the nations, a greater facility in meeting the problems of nutrition and the prevention of disease than we have ever enjoyed, and a vastly expanded resource in trained and experienced public health workers.

It can be said with confidence that the leadership in Committee IV on Relief and Rehabilitation Policies and in the Sub-Committee on Policies with Respect to Medical Care is excellent. It is fortunate that the Director General of UNRRA is so able and experienced an administrator and one so familiar with good public health practice. Herbert H. Lehman, then Governor of New York State, speaking before the American Public Health Association in 1937, said "It is my firm conviction, often repeated, that so far as science and government can make it possible, an equal opportunity for health is the right of all citizens of the community, regardless of circumstances, birth, economic conditions, geographical limitations, race, creed, or color . . . definite plans require expert preparations and supervision, with official recognition of the maxim that the health of the people is indeed the highest law." Also, "That the economic condition of a community bears a very direct and potent relation to the health and welfare of its citizens is a conviction which has continued to grow upon me for many years."

These are heartening words from the Director General and he will have no unfamiliar teammate with whom to work out these policies for Dr. Thomas Parran is Chairman of the Sub-Committee on Policies with Respect to Medical Care of UNRRA.

Health workers in an international body like the American Public Health Association have a vital interest in the personnel which will be used for such a herculean task. The record to date of OFRRO, the former American counterpart of UNRRA, which was under Governor Lehman's direction, gives reason for hope that the choice of staff will be made on a merit basis and with a judicial balancing of the relative importance of technical training and an ability to get along with people. The sources which have so far been used indicate that the Governor means what he has said about the choice of the best available persons to do the job. That there will be difficulties and obstacles, no one can doubt. That it will be hard to maintain high morale in any group long after the demobilization of the military forces is obvious. Yet the readiness of highly qualified health men and women is a matter of record and should be encouraging to all concerned.

As a statement of policy for a newly established health agency, it would seem that the declarations with respect to health and medical care are admirable. "The reëstablishment of health being one of the principal objects of relief work, it is essential that the status of the health organization should be commensurate with its importance in the work of the whole administration." It is emphasized that it is a recognized principle of administration that all work of a technical character should be carried out under technical direction. Since every aspect of the work of UNRRA will necessarily have health implications, the director of health must be afforded a position in the administration which will enable him under the authority of the Director General to develop suitable policies and to exercise proper technical direction over all health aspects of the work of UNRRA. What if each of our states and provinces were set up with a similar declaration! . . . "The status and success of UNRRA from the health point of view depend on obtaining the services of a director of health of the highest possible professional standing, whose previous work is such as to command the respect of those qualified to judge, both from the technical and administrative point of view."

For career workers in public health it must be conceded that these plans throw new perspectives around the task. To have the familiar technics and the experience of our daily work applied on a global horizon by those whom we regard as worthy of the high responsibility—that indeed is a challenge. There is no escape from

the obligation which each has to see his own part in this huge undertaking, whether abroad or at home, for if this work be well done it will have a profound influence on other international relations.

Viewed in the long perspective, UNRRA will facilitate the later development of a permanent, world-wide health organization and that may well be the framework on which an enduring international peace may be established.

Credit Lines

THE appreciative response which has arisen over Dr. Patterson's recent guest editorial "The Compleat (Annual) Reporter" (see October Credit Lines) has prompted the Editors to ask him to present another aspect of agency business, namely the writing of letters. The next voice you hear will be that of Dr. Raymond S. Patterson, Director of Health Education, John Hancock Mutual Life Insurance Company, Boston.

DO YOU NEGLECT THIS DEVICE?

Is this a fair picture of you, too?

Dr. Health Officer (or Miss Agency Executive) "with shining morning face" seats himself at his desk. His secretary brings in the first grist of mail.

Groaning loudly over the thickness of the pile, Dr. Health Officer takes up the letters and then there ensues the following monologue:

"This doctor wants some specimen containers. Refer the request to the lab., Miss Scribble. I'll answer the first part of his letter if I see him at the meeting next week."

"This woman really wants a baby booklet, I guess, but send her the other one about toddlers, too."

"Refer this request to the Welfare Association, please. Oh yes, and here's one for the Street Department Miss Scribble."

"Well, here's a letter I'll have to answer, I'm afraid." Reluctantly he begins to dictate: "Dear Mrs. Kantwayt . . ."

A tiresome inconsequential job to be gotten over quickly so as to get down to the important work of the day—such is office correspondence!

Is that your measured opinion Dr. Health Officer (or Miss Agency Executive)?

Each morning come these letters from people who want your advice, who seek information, who are in need of your services. They are coming to you for help, they are in a receptive attitude of mind, they are ripe for health education. If health education is influencing of the health habits and attitudes of the people of your community, then here is a golden opportunity to cast your bread upon the waters with an excellent chance that it will be returned to you—when you least expect it.

Don't neglect this opportunity. Instead, make the most of it. Answer questions in detail as though it were a pleasure to give the information. Let the writer know that his request for services will be complied with gladly, promptly, and completely. Then—when he is in a state of pleased surprise—say to him, "you may be interested to learn . . ." and in a couple of well-thought-out paragraphs tell him about the current health department activity that everyone in your community should know about. Public opinion is the combined opinion of individuals. You are molding public opinion in each letter.

SOMETHING ABOUT YOUR LETTER'S LOOKS

Often your letter is your first, sometimes your only, contact with your correspondent. Your representative deserves to be well dressed. You don't go, yourself, in overalls to meet your public, or allow your nurses to go in slacks and sweaters. Some letters that

I have seen—yes, from health agencies—are in about that state of undress.

Your letter should be as attractively clothed as you would be. A clean sheet of white paper of good quality, a letterhead pleasingly printed in legible type and in black or nearly black ink, your letter conventionally typed—with a new typewriter ribbon, please—in the center of the page, and with eye-soothing white margins all around. The recipient of your letter may not remember, but he glows with pleasure as he takes it from the envelope.

Some agencies—especially the tuberculosis associations— are addicted to "namitis." You may find a list of ten, twenty, *thirty* names down the left margin of the paper. No one ever reads these names but the funereal border of black competes with, and detracts from, the message you hope your correspondent will read. Why make it hard for him to concentrate with such a sideshow? A few agencies go so far as to print messages here, with subheads in red, planned deliberately to compete with the letter itself!

What about "namitis"? If there is an impressive list of Nabobs who must be named, would it not be better to print the imposing array on the back of the letter? Then all the titles and positions may be appended as well, and everyone will be impressed. If there is a message that *must* go with each letter, could it not be enclosed as an envelope stuffer? If the idea is so all-fired important could it not be written into the letter? It should deserve that much attention.

SOMETHING ABOUT WRITING

If you propose to influence your correspondents' health habits and attitudes by words, then your words had better be sharp, clear, and compelling. All of us live under a deluge of words poured on us from the radio, the press, and our neighbors. The only way we can keep our sanity is by learning to cover our minds with an umbrella of indifference. So, if you, Dr. Health Officer (or Miss Agency Executive) propose to pierce this umbrella with your words, make them good words.

Writing is a skill that grows with practice—in no way different from piano playing. Could you play even "Old Black Joe" without hours of practice? So if you would sharpen your words, whittle them with painstaking care. Make your letters models of persuasive writing. If you write good letters, you will be able to produce any other of the health educational media—with more practice.

Write critically. By that I mean, be critical of your own writing. Take time to re-write. Preferably sleep on your first effort—especially if it was dashed off in the fine white heat of inspiration—it may look a bit blue, next morning. Mrs. Shelley wisely said that the health educator should write, not so his writing can be understood, but so that it can't possibly be misunderstood. Take that to heart in your letter writing.

THIRTY-ONE STATES CONSIDER THEIR POST-WAR PUBLIC HEALTH PROGRAMS

Thirty-one state health officers are now in agreement with state plans for local health jurisdictions, arrived at jointly between them and the A.P.H.A. Committee on Local Health Units. It will be remembered that the committee exhibited maps and tabular data showing both the existing status and proposed plans for local health service at the St. Louis Meeting of the Association in October, 1942. This material, together with the minimum standards proposed by the committee, was summarized in the April, 1943, issue of the *American Journal of Public Health*.*

* Units of Local Health Service for All the States. Progress Report. *A.J.P.H.*, 33, 4:404 (Apr.), 1943.

The 31 states in agreement represent 58 per cent of the population of continental United States, have a total of 2,074, or more than two-thirds of all counties, and have agreed upon 749 units of local health jurisdiction, an average of nearly 3 counties per unit.

That this was not accomplished by mere formal and unthinking agreement with committee suggestions is eloquently attested by the fact that 21 of the 31 states as now districted have a different number and arrangement of jurisdictions from those suggested by the committee in the first instance. In 14, the number of units was increased upon recommendation of the state health officer; in 7 states the number decreased. However, the number of units agreed upon in the 21 states combined is fewer than the number suggested by the committee.

Even a superficial analysis of the correspondence and the supporting material furnished by state health officers to support their variations from committee suggestions indicates the extent to which this plan has stimulated the imaginative thinking of state health officers. Discussion revealed an acute awareness of local social, geographic, economic and political factors and maps, current population, and financial data were in most cases prepared. Unless all signs are misleading, the postwar world will feel the stirrings of a movement that is gathering a sure momentum. At that time personnel back from the wars will be available and the federal government will in all probability be prepared to assist localities in financing an adequately planned and staffed public health program. The states with a plan will have first call on personnel and funds.

This movement has implications for public health education in the medical, nursing, sanitation, and related fields. As the local health officer becomes the custodian of the public health of a considerable body of citizens, his professional and economic status will be such as to justify special training for his responsibilities on the one hand, and to demand that he forego private practice on the other. Similar incentives will be present for professional training of the public health nurse and the sanitary engineer. Likewise colleges and schools of medicine, nursing, engineering, and social work will have a guide as to the number of professional personnel that will be required, as well as a fairly definite blueprint of the jobs to be done, and the financial rewards for adequate training and performance. Further, as public health jurisdictions become organized as now planned, they can serve as field work laboratories for the future training of workers.

FOR PHYSICIANS ONLY

The Subcommittee on Personal Health and Safety of the State Home and Farm Safety Advisory Committee, New York State Department of Health, is responsible for a concise, 8 page statement of the home accident problem in the state and the responsibility of the practising physician in reducing it. He is reminded of physical conditions and medications which may cause accidents, of situations which may cause trouble for infants and toddlers and of types of advice to give to mothers to prevent accidents.

"An outline of Public Health Activities for the Practising Physicians of Minneapolis," issued by the Division of Public Health, F. E. Harrington, M.D., Commissioner, is a sturdy, well printed book of 68 pages and cover. It is a straight-forward, factual, and readable account of the organization and activities of the division with "The Physicians' Participation in This Activity" concluding each section. Illustrations of forms for reporting communicable diseases and the list of reportable diseases are included in the chapter on

this subject. Several appendices make much useful and necessary information easily available for the physicians of the city. In these the existence and relation of public health activities at the federal, state, and local levels are summarized; the *International List of Causes of Death* is reproduced; some of the common communicable diseases are reviewed in a quick-reference table (one wonders why they were not arranged alphabetically); quarantine and isolation of communicable diseases and susceptibility tests and active immunizations are presented in tabular form. A final section deals with the scope of premarital examination laws in 33 states, lists of approved out-of-state laboratories and approved tests, license and residence restrictions, and sources of examination forms, and gives the periods of validity of examinations, laboratory tests and licenses.

THE HEALTH OFFICER MOVES OVER

It seems that for years the members of the West Virginia Public Health Association have been under the impression that their Constitution specifies that only a health officer may be elected to the office of President. There has been a growing dissatisfaction with the automatic ignoring of public health nurses and sanitarians which this general belief brought about. Recently the Executive Committee was stimulated by a health officer to search the Constitution and By-laws and discovered that the election of a health officer year after year to the Presidency was simply a matter of precedent. At the spring meeting, the association will vote upon an amendment which, if approved, will rotate the highest office so that a health officer, a nurse, and a sanitarian will each hold it once in every three year period. This may or may not be a good system, but that is not the point. The point is that things do not have to stay the way they are. There is a good deal of encrustation of tradition in organizational set-ups, a corner of which might well be scraped off to see what is underneath.

KNOXVILLE AND KNOX COUNTY CONSOLIDATE HEALTH SERVICES

Credit Lines reprints by permission the following news note from the November issue of the *National Municipal Review* with congratulations to Knoxville and Knox County for taking this progressive step in such business-like fashion:

"A merger of the Knoxville Bureau of Health and the Knox County Health Department took place July 1 through a written contract entered into by city, county, and state officials. The contract can be terminated by any of the parties at the end of any fiscal year provided the terminating party gives sixty days' notice. Under the contract the city must appropriate to the consolidated department at least $110,000 annually, the county a minimum of $14,000, and the state must furnish in cash, materials, and service a minimum of $70,000 a year.

Director of the combined department is the former Knoxville public health officer, Dr. W. H. Enneis; associate director is the former County Department of Health director, Dr. A. G. Hufstedler. The personnel of the city and county health departments were retained in the new department and classification and compensation for these employees will be established and maintained in accordance with a program approved jointly by the state and city civil service. Compensation of employees is not to be reduced below the salary schedule submitted to the State Health Department last May. New employees are to be selected subject to qualifications required under state and city civil service programs.

Prior to consolidation the city was spending approximately $1.30 per capita

for public health activities, and the county was spending approximately $.30 per capita. The consolidation has resulted in marked increases in expenditure and expansion of services, particularly in the rural areas where health services had been wholly inadequate."

MOTHER HAD A FINGER IN THESE

A joint project between the New York City Committee on Mental Hygiene and the Bureau of Child Hygiene of the New York City Department of Health, Leona Baumgartner, M.D., Director, has resulted in a series of 14 pamphlets on child guidance with emphasis on infant feeding. Some are for parents, and these are of two or four pages, written with the utmost simplicity and informality; some are for parents and staff; and some for staff alone. Number 1 is for parents and is headed briefly "Children Like To Eat." In easy, conversational style, maintained throughout, it elaborates the theme presented in its first paragraph: "Good food, offered in a matter-of-fact way, without urging. There—as simple as that—are the main points in helping children to develop good eating habits."

Pamphlet No. 2 is for staff and discusses children's eating habits and instructs nurses how to instruct mothers so that good habits may be formed. This is the pattern throughout the series. The staff pamphlets provide scientific background, unencumbered by technical language, however, and instruction related to the information given the parent.

The method of development of the pamphlets is noteworthy, as Dr. Baumgartner has described it. "The staff workers, nurses and physicians," she said, "brought together the questions that they found mothers asked most frequently in baby health stations, and the problem with which they spent the most time. Preliminary drafts of pamphlets which might be expected to help in a given case were then prepared. They were mimeographed and used for a year in individual stations. Numerous staff meetings, field investigations, etc., were the result, but out of them came, we believe, a very useful series of pamphlets."

FOUR LEVELS OF GOVERNMENT

As significant for public health workers as for the city managers he addressed at their 30th Annual Conference in Chicago on September 14, is this extract from Louis Brownlow's speech as published in *Public Management* for November:

"We must remember that this world is one world. We have got to think upward from the level of local government through four levels of government. Up to 30 or 40 years ago in this country any problem that came up from the people was first subjected to this question: Is this particular task to be entrusted to local government, state government, or federal government? And still nearly all our terminology, most of our everyday language, and a great deal of our ordinary thinking is shaped by that allocation of the responsibilities of governmental services among the three principal levels of government.

"But 30 or 40 years ago our actual practice began to change, so that today we no longer allocate an activity to one or another of the three levels of government in this country. We apportion a part of it to each of the three levels. We are not nearly so much the rivals in our several jurisdictional levels that we used to be. We are not fighting each other so much as our ordinary everyday language would indicate. We are witnessing the growing up in this country of coöperative government and in our most important activities we discover that all three of the levels of government are concerned with the

proper administration of those tasks that the people have decided are governmental in nature. When we realize that and can change our language so that it will come nearer to the actual fact we will have gone a long way to the solution of many of our most vexing managerial problems. No longer can these problems be answered in terms of *either* federal *or* state *or* local government—it is *and*. I am always amazed when I hear a local government official say he is hampered by the enmity of the state or federal government because he is fighting himself. For each one of us is a citizen of all three, and we are running all three, and all three are necessary in our national system.

"But now the three levels of government are not enough, because whether we like it or not, and whether or not our thinking is sufficiently adjustable and our language sufficiently elastic, we are a part of one world. How much you are going to accomplish with your plan in your city for highways, airports, and hospitals is going to be determined not by what you do in your city, not by what is done in your state capital, not by what is done in Washington—it is going to be determined in all parts of the world. What is done in China will have a repercussion on what is done in the United States, and vice-versa. What is done in Russia will have an effect on Australia; events in the South Seas will help determine the destiny of Canada."

WORTH ACQUIRING

For its persuasive reminder of how well off we are in the Western Hemisphere, the October 15 issue of *United States Municipal News*, published by the United States Conference of Mayors, 730 Jackson Place, Washington, D. C., which is devoted to "Local Government in Conquered Europe." Read it and rejoice that you are who you are and where you are.

The November issue of *Michigan Public Health*, published by the Michigan Department of Health, Lansing, H. Allen Moyer, M.D., Commissioner, for its article on "A Training Program for Replacement Sanitarians in Michigan" by John M. Hepler, C.E., Director of the Bureau of Engineering. This is the program which called forth the editorial published in Credit Lines for August from *The Ann Arbor News*. Mr. Hepler includes in his discussion the 3 weeks' course of study given at the University of Michigan and offers the plan as a solution of the sanitation problem in other states for the emergency.

"New Tools for Learning about War and Post-War Problems," a guide to films, pamphlets, and recordings for teachers, speakers, and discussion leaders, for its section on Achieving Victory on Home Front Problems which includes materials on health and welfare, juvenile delinquency and the school. Published by New Tools for Learning, 280 Madison Avenue, New York, N. Y.

"About Us and Our Friends" and "First Steps to Health Education," a guide to the former, published by the School Health Bureau of the Welfare Division, Metropolitan Life Insurance Company, New York, N. Y., for many suggestions to nursery, kindergarten, and primary school teachers concerning basic school health activities. The foreword to the guide by Donald B. Armstrong, M.D., credits Marjorie L. Craig and Grace T. Hallock with its organization under the guidance of Sally Lucas Jean and Julia Wade Abbott.

"The Proposed Program of Inter-American Activities" of the American Legion, for its framework upon which might be hung any program for community action. Published by the National Americanism Commission at National Headquarters, The American Legion, Indianapolis, Ind.

The August issue of *Tic*, published by Ticonium, 413 North Pearl Street, Albany, N. Y., for its bird's-eye view of the compulsory and voluntary sickness insurance programs in 38 countries. We have in mind a large bird with an enormous eye because 5 double-spreads of 14 columns each are required to present the data. The year of enactment, population, number of physicians and dentists, cost, administration of funds, cash and medical benefits, restrictions, and other information are given for each country.

WHAT IS BEING DONE IN ADULT EDUCATION?

A list of developments in the field of adult education prepared by a health educator presents a miscellany of interesting things which we have not seen brought together before. The list follows:

1. The U. S. Public Health Service has developed an experimental in-service program conducted for its own employees in health education. They have sponsored courses, workshops and scholarships in health education for teachers and there has been considered an extension of this work into a wider governmental field.

2. The U. S. Public Health Service has directed demonstrations in 90 southern areas on the use of teachers during the summer months for community education for malaria control.

3. A national nutrition program has had the participation of many government offices, state and local official and nonofficial agencies, and commercial organizations. This program has set an interesting pattern for the utilization of the resources of business for health education under government direction.

4. The Federal Public Housing authority has appointed a director of health education and is urging its project service advisers to assist in the development of health education programs in the housing projects.

5. An extensive adult education program through the Office of the Coördinator of Inter-American Affairs has been under way during the year in a very comprehensive way.

6. The National Safety Council and its local affiliates have developed programs on safety education aided by industry, the War Production Board and other government agencies and the American Public Health Association are planning to extend safety programs through health departments.

7. Illinois has created a large, State-wide Public Health Committee to promote better understanding of public health in the governmental set-up. Similar committees have been under way in Nebraska, and California has sponsored local health institutes.

8. Illinois, Indiana, Oklahoma, and North and South Carolina, among other states, have initiated programs of training health education personnel for their health departments.

9. Local health education programs have been under way notably in Boston, New York, Hartford, Bridgeport, Detroit, and in local areas in North and South Carolina and Oklahoma.

10. The Cleveland Health Museum has developed numerous health exhibits for adults.

11. The planned Parenthood Federation of America has developed materials on family planning in relation to public health.

12. The American Film Center, Inc., New York, has developed a new and excellent annotated list of health films for lay audiences.

13. The American Public Health Association has published an official report on the Educational Qualifications of Health Educators as one of a series of standards for personnel in professional public health work.

The American Public Health Association has developed objective methods for the examination of public health nurses, health officers, public health laboratory workers and sanitarians, as well as methods for the examination of other specialists in public health work.

14. The National Tuberculosis Association, together with the North Carolina State Tuberculosis Association, has sponsored an institute for tuberculosis workers.

15. The Commonwealth Fund and the Institute for Inter-American affairs have granted health education Fellowships for adults.

16. The University of California School of Public Health is offering a special course in health education to meet the needs of Latin Americans.

17. The Central Council for Health Education in London has begun issuing a new quarterly health education journal.

(Adapted from Public Health Education Section on New Developments in Health Education, Homer N. Calver, *Chairman*.)

PERHAPS THERE'S AN ARGUMENT HERE

Credit Lines submits a "Suggested Five Foot Shelf of Basic Books for Public Health Workers" and asks its readers if they find themselves in violent disagreement with any part of it. This was prepared by a Committee of the National Health Library, with heavy borrowing from the opinions of A.P.H.A. Section Secretaries.

Administrative Medicine. *Emerson.*

American Illustrated Medical Dictionary. *Dorland.*

Control of Communicable Diseases. *American Public Health Association.*

Community Health Organization. *Hiscock.*

Community Organization for Health Education. *American Public Health Association.*

Diagnostic Procedures and Reagents. *American Public Health Association.*

Educating for Health. *Hill.*

Evolution of the Public Health Movement. *Winslow.*

Food Poisoning. *Dack.*

Handbook of Communicable Diseases. *Top.*

Health in Schools. 20th Year Book. *American Association of School Administrators.*

International List of Causes of Death (5th ed.) and Joint Causes of Death (4th ed.) 1940. *Government Printing Office.*

Introduction to Medical Biometry and Statistics. *Raymond Pearl.*

Manual of Industrial Hygiene. *National Institute of Health.*

Manual of Public Health Nursing. *National Organization for Public Health Nursing.*

Mental Hygiene in the Community. *Clara Bassett.*

Municipal and Rural Sanitation. *Ehlers and Steele.*

The Newer Knowledge of Nutrition. *McCollum, Orent-Keiles and Day.*

Nursing—A Community Health Service. *Amy Grant.*

Nutrition in Health and Disease (9th ed.). *Lenna Cooper, Edith Barber and Helen Mitchell.*

Occupation and Health—an Encyclopedia of Hygiene, Pathology and Social Welfare. *International Labour Office,* Vol. I—1930, and Vol. IV—1934.

Preventive Medicine and Hygiene (6th ed.). *Milton J. Rosenau.*

Principles of Medical Statistics. *A. Bradford Hill.*

Public Health Administration in the United States. *Smillie.*

Public Health Law. *Tobey.*

Rural Health Practice. *Mustard.*

Social Work Yearbook. *Russell Sage Foundation.*

Standard Methods for the Examination of Dairy Products. *American Public Health Association.*

Standard Methods for the Examination of Water and Sewage. *American Public Health Association.*

Textbook of Bacteriology. *Zinsser and Bayne-Jones.*

Your Community. *Colcord.*

Ways to Community Health Education. *Hiscock.*

BOOKS AND REPORTS

All reviews are prepared on invitation. Unsolicited reviews cannot be accepted.

Anopheles Gambiae in Brazil, 1930–40—*By Fred L. Soper and Bruce D. Wilson. New York: The Rockefeller Foundation,* 1943. 262 pp.

The events that transpired from March, 1930, when Shannon discovered *Anopheles gambiae* at Natal, Brazil, through the subsequent devastating epidemic of *Anopheles gambiae*-transmitted malaria, and culminating with the eradication of this dreaded vector following a carefully planned and executed control program, are well described in this important report. Included are sections devoted to the description of the imago, pupa, larva and egg of *A. gambiae* as well as pertinent information concerning its ecology. There is a detailed account of the region invaded and the subsequent spread of this transposed mosquito which came from Africa and multiplied at a prodigious rate in a very favorable climatic area, probably in the absence of most of its natural enemies.

The malarial epidemic that followed in the wake of the gambiae invasion in 1938 was as severe as any recorded when compared to the area involved. In the first half of that year there were at least 100,000 cases with a minimum of 14,000 deaths. Faced with the problem of interrupting the epidemic and stemming further spread of the mosquito, the health authorities of the Brazilian Government and The Rockefeller Foundation undertook a joint enterprise of species eradication.

A plan of organization is described which fortunately utilized the personnel facilities and experience of the Brazilian National Yellow Fever Service. Combined control measures designed to remove *A. gambiae* from Brazil were instituted at the periphery of the area covering several thousand square kilometers and known to harbor the imported mosquito. Following a definite plan of attack which included anti-larval and adult spraying, disinsectization of all vehicles entering or leaving the area, and treatment, this border was pushed back so that by 1940 no specimens of the mosquito could be found and it was decided that there was no justification for the continuation of work. The remainder of the report is devoted to a thoughtful consideration of the problem of species eradication and the desirability of instituting similar efforts against the vectors of malaria in other areas rather than being satisfied with temporary control measures.

Few have had the opportunity or responsibility of deciding a course of action when a dangerous transmitter of disease breaks through its boundary and establishes itself in a new favorable area. Still fewer have had the foresight to plan a ruthless campaign and then remove bodily the last invader. That the last *A. gambiae* in Brazil has been destroyed seems well established, although even without new introductions there would remain some doubt for a few years until a definite statement could be made to this effect.

Unfortunately there is a factor that may mar the picture, namely, increased air transportation facilities from the endemic Anopheles area in Africa to Brazil. A doubt will be created as to the origin of any future wild-caught *A. gambiae* mosquitoes unless they should be found in large numbers in foci far from the port of entry. However, for the epidemiologist it is a clear-cut ex-

posé of what can happen when the world shrinks as the result of more rapid transportation, and for those concerned with the control of imported vectors or diseases it is an example of what can be done. No credit can be taken from this undertaking when it is stated that the habits of *A. gambiae* are such as to make them more easily destroyed by direct attack and that the production of other Anopheles of the Nyssorhynchus group rapidly returned to the pre-control levels at the termination of the campaign.

The successful methods and results of a never before tried large-scale campaign of species eradication as recorded in this concise, well written book will go down in the annals of major public health achievements.

L. T. COGGESHALL

Rheumatic Fever in Children—Its Recognition and Management—*New York: Metropolitan Life Insurance Company*, 1943. 29 pp.

Rheumatic fever is assuming greater importance as reports come in from examination of draftees and a more searching analysis is made of vital statistics. Bureau of the Census reports reveal that rheumatic fever now heads the list of causes of death among children 5 to 14 years of age. It is also an important cause of disability and death in older age groups.

It is therefore timely that a trustworthy publication should be issued having the approval of The American Heart Association, The American Academy of Pediatrics, the U. S. Children's Bureau, and the U. S. Public Health Service. Outstanding authorities have contributed to the development of this helpful booklet. The importance and nature of rheumatic fever are well stated. In clear, concise paragraphs, the diagnosis, course, and prognosis are set forth. The sections on the care of the child and follow-up care during the inactive stage are especially helpful. The publication is made more valuable by the appendices which describe the technical procedures for the examination of the heart, sedimentation methods, etc.

This booklet deserves wide circulation and should be placed in the hands of public health personnel as well as distributed to those engaged in clinical medicine. RICHARD A. BOLT

Handbook of Tropical Medicine—*By Alfred C. Reed and J. C. Geiger. Stanford University: Stanford University Press*, 1943. 188 pp. Price $1.50.

The authors have attempted to summarize the most important clinical, laboratory and preventive aspects of tropical diseases in this pocket volume of 188 pages. Such a task is extremely difficult and the authors have succeeded moderately well in their attempt. This book will serve a useful purpose for civilians and military physicians who do not have larger and more extensive works on tropical medicine available. Unfortunately there are no illustrations in the book which limits its use for those interested in the diagnosis of tropical diseases by laboratory methods.

The treatment of each disease is briefly covered and in general standard drugs and dosages are employed.

H. W. BROWN

Chronic Pulmonary Disease in South Wales Coalminers—*II. Environmental Studies. Medical Research Council. Special Report Series No. 244. London: His Majesty's Stationery Office*, 1943. 222 pp. Price, $3.00.

This second report on chronic pulmonary disease in coalminers presents the results of the committee's attempt to measure the effects of certain environmental factors on the development of pneumokoniosis among colliers in the South Wales fields. Coal mining is not in itself considered a major cause

of silicosis, and it was believed that physical studies of the workers' environment and chemical and petrographic analyses of the dusts might throw further light on the etiology of pulmonary abnormalities found in this group.

On the basis of its investigations the committee concludes:

1. That the incidence of pneumokoniosis appears to be influenced neither by the temperature at the coalface nor by the humidity of the air.

2. That there is no correlation between the concentration of nitrous fumes from blasting and the incidence of pneumokoniosis.

3. That there is a significant association between the average mass concentration and the ash concentration of the dust and the incidence of pneumokoniosis.

4. That a relationship exists between the incidence of pulmonary abnormalities and the degree of metamorphism in the shales worked. Whether this is a direct relationship is unknown.

5. That while it is not possible to say that the quartz content of the dust is not the chief determinant of the pulmonary abnormalities found, the interaction of various other constituents must be considered in the etiology of the atypical form of pneumokoniosis found in this area.

Workers in the field of pneumokoniosis will be impressed by the authors' discussion of the question of what type of dust measurement best represents the hazard to workers exposed, and the relation between mass concentration and particle counts of the dusts. Equally pertinent is the caution that as a result of changes in methods of mining during the past twenty to thirty years present environmental conditions may now be very different from those under which the existing pathology developed. Although written for the technical worker this report is of interest to everyone concerned in the effects of environment on the development of pulmonary disease. ALTON S. POPE

A Study of Public Relations—*By Harold P. Levy. With an introduction by Mary Swain Routzahn. New York: Russell Sage Foundation*, 1943. 165 pp. Price, $1.00.

A Study in Public Relations, by Harold P. Levy, Research Associate of the Russell Sage Foundation, is, according to its own introduction, "the story of what has been done by one agency during a given period under a particular set of circumstances." Herein lie both its strength and its weakness. As a case study of the background, organization, and activities of the public relations division of the Pennsylvania Department of Public Assistance, Mr. Levy's book is informative. Students of social work interested in learning the set-up and specific problems facing a state-wide public relations program will find this book worth reading. Apart from its value as a documentary report of the Pennsylvania program, however, the volume has a limited appeal. Persons with even a passing acquaintance with the fundamentals of public relations will find few new ideas expressed in its chapters. The subject of newspaper releases, speeches, pamphlets, and other media are evaluated in a routine manner only. The importance of radio as a major instrument for moulding public opinion seems underestimated by the Pennsylvania Department of Public Assistance. Many of the findings relate exclusively to the particular project described and cannot be applied with any degree of accuracy to public relations projects in general.

Perhaps the greatest service provided by this book, aside from its value as a factual report on the Pennsylvania program, is the emphasis that it places on the importance of public relations "as a specific and definite function" for every large-scale social service enterprise. In convincing skeptics that even social service agencies can benefit from an aggressive public relations program, Mr. Levy's book makes a very real contribution, indeed.

FRANK A. CALDERONE

Annual Review of Physiology—*By James Murray Luck and Victor E. Hall. Annual Reviews, Inc.*, 1943. 613 pp. Price, $5.00.

If it is true that all health rules are good only so far as they conform to the findings of human physiology, then public health workers might as well make themselves more familiar with these findings.

Volume V of this *Annual Review* gives, in a very compact way, proven facts instead of the widely circulated beliefs and assumptions about the functioning of the human body.

Going along with the present trend there are many articles in the field of nutrition, such as: Energy Metabolism, The Digestive System, Liver and Bile, and Metabolic Functions of the Endocrine System.

The field of Physiology of Reproduction is covered by: Physiological Aspects of Genetics, Physiology of Mamalian Semen, and Endocrinology of Reproduction.

Other subjects reviewed in detail are: The Functional Psychoses and Physiological Correlates of Behavior.

Many experts have contributed, and the bibliographies are detailed and extensive. BRUNO GEBHARD

As the Child Grows—*By Helen Brenton Pryor, New York: Silver Burdett Co.*, 1943. 400 pp. Ill. Price, $3.00.

You, Your Children and War—*By Dorothy W. Baruch. New York: Appleton-Century*, 1942. 234 pp. Ill. Price, $2.00.

Children Have Their Reasons—*By Ruth Wendell Washburn. New York: Appleton-Century*, 1942. 257 pp. Ill. Price, $2.00.

In these books three well known teachers have echoed and interpreted much of the knowledge which intensive studies of children's growth and behavior have revealed in the past two decades. All three emphasize the point of view that although there is a general pattern which can be expected of children of different ages, each child has his own individual pattern. However, the three authors tell their stories in quite different fashion.

Dr. Pryor tackles the problem in a direct fashion, discussing, from the more academic point of view, the factual knowledge which has been accumulated. Tables and charts are numerous. A carefully annotated bibliography is of particular value, but the short paragraphs on various medical topics, details of embryonic development, lists of 100-calorie portions, and other such more or less technical material, do not seem so. Such materials will probably interest the college student but the public health worker will probably find them a part of his background or wish fuller information.

Dr. Baruch has taken her knowledge of children and discussed the questions which parents, teachers, and others associated with them are asking in these war days: What can I do to help children and myself remain normal? What to tell children of hating, and killing, and democracy? Dr. Baruch's volume is timely, chatty and full of stories of how different individuals are solving these problems.

From the east coast comes the third volume, from the pen of one of the most beloved of children's "specialists," Dr. Ruth Washburn, who has always said she would never write a book about children. It is the belief of this reviewer that for years to come many will be grateful that Dr. Washburn finally decided she, too, had something to say. Here are the wisdom, humor, understanding, and kindliness that Dr. Washburn has learned from children in the lifetime she has spent with them. And woven also into the fabric is the extensive scientific knowledge she gained in the 15 years she was

at the clinic of child development at Yale University. She is particularly adept in explaining children's ways to adults. Her technic of drawing illustrations from adult experience is peculiarly effective. The title of the volume, "Children Have Their Reasons," expresses the spirit of the presentation or, as Dr. Washburn says, "What parents need is not so much rules or behavior prescriptions—these may make robots of them. It is insight they need, and that selfishness which makes it possible to say each time a child's behavior is puzzling or irritating, 'If I were in his shoes, what would be my reasons, my excuses, my explanations?'" It is a volume that one reads and re-reads with joy and profit. LEONA BAUMGARTNER

Managing Your Mind—*By S. H. Kraines, M. D. and E. S. Thetford. New York: Macmillan,* 1943. 374 pp. Price, $2.75.

This book will likely appeal to the person of good education, rather than to the average person or the psychiatrically trained. There is good description of the advances in psychosomatic medicine and various types of purely psychological symptoms of the psychoneuroses.

Those readers who are familiar with Freudian literature may be resentful of the fact that some of the basic Freudian concepts are used as a basis for explanation of these symptoms but that the rôle of the unconscious is largely ignored or minimized. The description of various psychological mechanisms uses the exact terminology of psychoanalysis, but there is no indication of their Freudian origin, and the general impression left is that they are conscious mechanisms.

The leaving out of the rôle of the unconscious enables the authors to appeal to the intellect of the reader and leave the impression that an individual can obtain conscious insight and control over his psychoneurotic symptoms. While the authors give adequate and repeated warning about self diagnosis and self treatment, the whole purpose of the book and the way it is written is to convince the lay reader that he can cure himself, so to speak. Since the major portion of the book is devoted to psychoneurotic symptomatology, one may be a bit pessimistic about the author's optimism in this direction.

In the latter part of the book, which is devoted to living a healthy life, the authors are on safer ground. In general their discussion of sex and marriage, a philosophy of life, intellectual objectivity, emotional maturity, self-reliance, and the use of one's energies represent good mental hygiene.

JAMES M. CUNNINGHAM

Housing Yearbook, 1943—*Edited by Hugh R. Pomeroy and Edmond H. Hoben. Chicago: National Association of Housing Officials.* 159 pp. Price, $3.00.

This volume provides a useful handbook of housing developments during a year which witnessed the consolidation of sixteen federal agencies into one central body, the National Housing Agency. The problems confronting that agency—including the scheduling of new construction to meet the needs of war industry, the procurement of critical materials, and the control of occupancy to assure the housing of workers most in need of it—are reviewed by the National Housing Administrator, who points to the substantial accomplishment of a million and a quarter new housing units completed or scheduled under the defense and war housing programs up to March, 1943.

Activities of the three branches of NHA (Federal Public Housing Authority, Federal Housing Administration, and Federal Home Loan Bank Administration) are summarized by

their respective commissioners, and the administration of federal rent control by the Office of Price Administration is also reviewed. Not to be overlooked in any review of the national housing program is the rural work of Farm Security Administration, whose camps for migratory farm workers, combining shelter with programs of medical care, have been transferred to NHA but continue as an important factor in meeting the war housing need.

The Yearbook includes a useful directory of official and unofficial housing agencies, both local and national, with listings of their key personnel.

ALLAN A. TWITCHELL

Drying and Dehydration of Foods—*By Harry W. Von Loesecke. New York: Reinhold,* 1943. 302 pp. Price, $4.25.

The author has prefaced the book with the statement that its purpose " is an attempt to place before those interested in food dehydration a compilation of the latest practical information dealing with this subject. The data presented are not considered as giving a complete picture of the science of food dehydration. It was believed that the book would serve best if set forth without attempting an exhaustive treatment of the subject."

Chapter 1 is devoted to descriptions of the various types of dehydrators and a brief discussion of the important factors involved in drying. Chapters 2, 3, 4, and 5 present the methods used for the sun-drying and dehydration of fruits, dehydration of vegetables, eggs, milk, butter, meat, fish, and beef blood. Dehydration costs are analyzed in Chapter 7. Readers concerned with the public health aspects of the rapidly expanding food dehydration industry will be particularly interested in that portion of the text devoted to a discussion of Plant Sanitation, Nutritive Value of Dried and Dehydrated Foods, and Packaging and Storage. The final chapter deals with Methods of Analysis, and Reconstitution of Dehydrated Foods.

The purpose of this book has been accomplished in that it is a well prepared compilation of much of the recent practical information regarding the drying and dehydration of foods. Suggested readings listed at the end of each chapter and references included in the text form a bibliography for those who desire detailed information on any particular phase of the subject. A partial list of patents pertaining to dehydration of foods is given.

In view of the importance of inert gas packing as a means of protecting certain dehydrated foods, such as dried whole milk, carrots, and cabbage, it would have been well to have discussed the factors involved in gas packing, and to have presented a more critical evaluation of the effectiveness of the various methods which have been proposed for commercial use.

The text contains the statement that whole dry milk is packed in 1, 5, 25, and 50 pound cans which are evacuated, the vacuum replaced by nitrogen, and the containers then vacuum sealed. We presume that the author intended to state that the containers are hermetically sealed rather than vacuum sealed, since the nitrogen filled cans are sealed hermetically at atmospheric pressure.

A brief discussion of the difficulties peculiar to the gas packing of whole dry milk would have been a valuable addition to the practical information given regarding the packing of products of this type. Although a glossary has been included, it appears to be composed chiefly of terms previously explained in the text.

H. L. SIPPLE

Sanitary Products. Their Manufacture, Testing and Use—*By Leonard Schwarcz. New York: MacNair-Dorland,* 1943. 287 pp. Price, $5.00.

The purpose of this volume is to compile and discuss under one cover a few of the many aids used by man to promote sanitation and thereby reduce the spread of disease. The chapters are complete in themselves, each covering a distinct product or subject.

The author introduces his subject with a chapter on the history of bacteria which sets the stage for the later chapters on their control with disinfectants, insecticides, soaps, waxes, and the like. He defines such words as "germicidal" and "bactericidal." Insects, roaches, bedbugs, moths, and many other pests are discussed.

The author's method of presenting the subject emphasizes its importance to human beings and to their economy, and produces a desire on the part of the reader to become more familiar with these combating agents. The book is written in such a manner as to be of interest to laymen as well as to those engaged professionally in this work.

ARTHUR P. MILLER

BOOKS RECEIVED

ARE YOU ALLERGIC? By Jessamine Hilliard and Charles C. Coghlan. New York: Barrows, 1943. 248 pp. Price, $2.50.

WHITE BLOOD CELL DIFFERENTIAL TABLES. By Theodore R. Waugh. New York: Appleton-Century, 1943. 126 pp. Price, $1.60.

ELEMENTS OF MEDICAL MYCOLOGY. By Jacob Hyams Swartz. New York: Grune & Stratton, 1943. 179 pp. Price, $4.50.

THE COMPLEAT PEDIATRICIAN: PRACTICAL, DIAGNOSTIC, THERAPEUTIC AND PREVENTIVE PEDIATRICS. By W. C. Davison. 4th Ed. Durham, N. C.: Duke University Press, 1943. 270 pp. Price, $3.75.

THE HEALTH OF CHILDREN IN OCCUPIED EUROPE. Washington: International Labor Office, 1943. 41 pp. Price, $.25.

CONTROLLING JUVENILE DELINQUENCY: A COMMUNITY PROGRAM; 28 pp. UNDERSTANDING JUVENILE DELINQUENCY; 52 pp. Washington: Children's Bureau, U. S. Department of Labor, 1943. Price, $.10 each.

CHILDREN WITH CEREBRAL PALSY; 32 pp. CHILDREN WITH SPEECH DEFECTS; 24 pp. THE EDUCABLE MENTALLY HANDICAPPED CHILD IN ILLINOIS; 46 pp. THE EPILEPTIC CHILD IN ILLINOIS; 40 pp. Chicago: Illinois Commission for Handicapped Children, 1943.

HEALTH FOR YOUNG AMERICANS. By William E. Burkard, Raymond L. Chambers, and Frederick W. Maroney. New York: Lyons & Carnahan, 1943. 375 pp. Price, $.75.

TWENTY YEARS OF MEDICAL RESEARCH. By Dorothy White Nicolson. New York: National Tuberculosis Association, 1943. 97 pp. Price, $.50.

CIVILIAN WAR SERVICES: AN OPERATING GUIDE FOR LOCAL DEFENSE COUNCILS—OCD No. 3626; 40 pp. HEALTH SERVICE IN WAR TIME—OCD No. 3627; 15 pp. MANUAL FOR VOLUNTEER OFFICES—OCD No. 3629; 64 pp. THE NEIGHBORHOOD IN ACTION—OCD No. 3630; 32 pp. THE UNITED STATES JUNIOR CITIZENS SERVICE CORPS—OCD No. 3623; 20 pp. Washington: U. S. Office of Civilian Defense, 1943. $.10 each.

OCCUPATIONAL LEAD EXPOSURE AND LEAD POISONING. A Report Prepared by the Committee on Lead Poisoning of the Industrial Hygiene Section of the American Public Health Association. New York: American Public Health Association, 1943. 67 pp. Price, $.75.

ADMINISTRATION OF RELIEF ABROAD: A Series of Occasional Papers. American Aid to Germany, 1918–1925, by Sidney Brooks, Together with The Long Mile Beyond Berlin, by Shelby M. Harrison. The American Friends in France, 1917–1919, by Rufus M. Jones, Together with Problems Involved in Administering Relief Abroad, by Clarence E. Pickett. American Red Cross Famine Relief in China, 1920–1921, Report of the China Famine Relief, American Red Cross. The American Red Cross in the Great War, 1917–1919, by Henry P. Davison. The American Relief Administration in Russia, 1921–1923, by H. H. Fisher. The Near East Relief, 1915–1930, by James L. Barton. Recent Relief Programs of the American Friends in Spain and France, by John Van Gelder Forbes, and the American Friends Service Committee. Each edited by Donald S. Howard. New York: Russell Sage Foundation, 1943. 28 pp. each. Price, $.20 each.

MANUAL OF INDUSTRIAL NUTRITION. By Food Distribution Administration, Nutrition and Food Conservation Branch, U. S. Department of Agriculture. Washington: U. S. Government Printing Office, 1943. 25 pp.

PLANNING MEALS FOR INDUSTRIAL WORKERS. By Food Distribution Administration, Nutrition and Food Conservation Branch, U. S. Department of Agriculture. Washington: U. S. Government Printing Office, 1943. 28 pp.

HANDBOOK ON PHYSICAL FITNESS: For Students in Colleges and Universities. By U. S. Commissioner of Education Committee, with U. S. Army, U. S. Navy, U. S. Public Health Service, and Physical Fitness Division of Office of Defense Health and Welfare Services. Washington: U. S. Government Printing Office, 1943. 140 pp. Price, $.25.

PHYSICAL FITNESS THROUGH HEALTH EDUCATION FOR THE VICTORY CORPS. By U. S. Commissioner of Education Committee, with U. S. Army, U. S. Navy, U. S. Public Health Service, and Children's Bureau. Washington: U. S. Government Printing Office, 1943. 98 pp. Price, $.20.

OHIO RIVER POLLUTION SURVEY: Final Report to the Ohio River Committee. Vol. I, Vol. II, Vol. III—793 pp. Supplement "A"—Collection of Data on Sources of Pollution, 79 pp.; Supplement "C"—Acid Mine Drainage Studies, 68 pp. Cincinnati, Ohio: Federal Security Agency, U. S. Public Health Service, 1942.

THE ROCKEFELLER FOUNDATION — INTERNATIONAL HEALTH DIVISION: ANNUAL REPORT, 1942. New York: The Rockefeller Foundation, 1943. 194 pp.

EDUCACION HIGIENICA. By Dr. Manuel Gonzalez Rivera. Mexico City: Escuela de Salubridad e Higiene, 1943. 320 pp.

DISTRIBUTION OF HEALTH SERVICES IN THE STRUCTURE OF STATE GOVERNMENT. PUBLIC HEALTH BULLETIN No. 184. By Federal Security Agency, U. S. Public Health Service. 3rd ed. Washington: U. S. Government Printing Office, 1943. 340 pp. Price, $1.10.

A SELECTED PUBLIC HEALTH BIBLIOGRAPHY WITH ANNOTATIONS

RAYMOND S. PATTERSON, PH.D.

Principles vs. Practice in Milk Testing—An inquiry was made into the practices of certain milk testing laboratories. Among those under scrutiny, none met all the "standard methods" requirements on equipment and procedure. Practically every item was violated by some laboratory sufficiently to influence the accuracy of the analysis, though every item was adhered to by several laboratories. Among the 168 items relating to plate counts the mean deviation was 32. Two more reports upon other phases of this study are to come: they should make equally interesting reading.

BLACK, L. A. Surveys of Milk Laboratories in War Areas in the United States. Pub. Health Rep. 58, 44:1605 (Oct. 29), 1943.

Vaccinia from Chick Embryos—Vaccine cultivated for 9 years on chick embryos induces a milder lesion than calf virus, but there was found no substantial difference in the degree of immunity attained.

BUDDINGH, G. J. The Pathogenic and Antigenic Properties of Dermal Vaccinia Virus Propagated in the Chorio-Allantois of Chick Embryos. Am. J. Hyg. 38, 3:310 (Nov.), 1943.

Chicago Intensive Treatment Center—In this preliminary report upon 931 patients given fever-chemotherapy for syphilis, the safeguards which should be applied to the intensive methods are described.

BUNDESEN, H. N., *et al.* The Intensive Treatment of Gonorrhea and Syphilis. J.A.M.A. 123, 13:816 (Nov. 27), 1943.

Quote—I've found the best way to bring a shadow of warmth into an editor's jaundiced eye is to show him good glossy pictures—and then mildly suggest there might be a story with them. Unquote.

COOK, B. I Like My Job! Pub. Health Nurs. 35, 11:634 (Nov.), 1943.

Social Medicine—Fighting Words—Our United States and Canada are the only countries in which organized medicine has itself set under way health insurance plans under its own auspices. So begins a review of the schemes created by the medical societies. This is a continued story and some of it is "writ sarkastick."

DAVIS, M. M. Health Insurance Plans under Medical Societies. Med. Care. 3, 3:217 (Aug.), 1943.

Here Is News—After years of discussion about the possibilities of preventing caries by the addition of fluorine to the water, something is to be done about it. So take off your hats to these brave pioneers. Two cities with comparable populations have been selected. To one water supply sodium fluoride will be added and dental examinations will be conducted in both communities.

DEAN, H. T. Domestic Water and Dental Caries, (and) AST, D. B. A Program of Treatment of Public Water Supply to Correct Fluoride Deficiency, (and) WOLMAN, A. What Are the Responsibilities of Public Water Supply Officials in the Correction of Dental Deficiencies? J. Am. Water Works A. 35, 9:1161 (Sept.), 1943.

Games, Athletics, Out-door Activities, et al.—Canada, too, proposes to go in for physical fitness in a large and official way. A map of the highways to health is furnished.

HEAGERTY, J. J. The National Physical Fitness Act. Canad. J. Pub. Health. 34, 10:465 (Oct.), 1943.

Where Accidents Vie with Disease—Before the war there were five million Americans enjoying major or minor orthopedic impairments. What the number will be this year is anyone's guess. Rates for age and sex are given.

KARPINOS, B. D. The Physically Handicapped. Pub. Health Rep. 58, 43:1573 (Oct. 22), 1943.

For TB Case Finders—This item will interest only those who are actively concerned with mass chest x-raying and probably all such will have seen the original article, but just in case they haven't, it is about a gadget which times the exposure resulting in a saving of labor, and fatigue.

MORGAN, R. H. The Automatic Control of Exposure in Photofluorography. Pub. Health Rep. 58, 42:1533 (Oct. 15), 1943.

Medically Poor States—Disturbing pictures of the per capita supply of physicians are limned. Twenty-eight states will have more than 1,500 persons per doctor and 7 of these will have more than 2,000.

PERROTT, G. ST. J., and DAVIS, B. M. The War and the Distribution of Physicians. Pub. Health Rep. 58, 42:1545 (Oct. 15), 1943.

Slaves of Fashion—Does public health concern itself with the matter of up-swept hair-do's? If so, here is an account of some unfortunate ladies who developed a most unpleasant dermatitis because they tried to varnish their stray locks in place.

SCHWARTZ, L. An Outbreak of Dermatitis from Hair Lacquer. Pub. Health Rep. 58, 44:1623 (Oct. 29), 1943.

Diphtheria in England—Before immunization in England one child in 10 contracted diphtheria; one in 200 died. Though the proportion of immunized children is still far from satisfactory, there is much to be thankful for today, for the risk of an immunized child contracting diphtheria is 12 times less than for an unprotected infant, and the risk of his dying is more than 100 times less.

SCOTT, J. A. Diphtheria: 1. Administrative Aspects (and two related papers). Pub. Health. 57, 2:14 (Nov.), 1943.

How the Master Race Is Fed—Everyone who is interested in learning how well the German civilians are fed, will find factual material here based upon on-the-spot studies up to May, 1942, and from information received since. As you may surmise they are not eating heartily.

SPICKNALL, C. G., *et al.* The Diet in Germany and the Occupied Countries during the Second World War. Pub. Health Rep. 58, 46:1669 (Nov. 12), 1943.

While There Is Yet Time for Planning—Canadian proposals for a public medical service are viewed in their relationship to the primary material necessities of life—food, shelter, and a job. Ability to meet promised benefits is considered and with the questioning is the warning that there is no greater danger to a democracy than a disillusioned people.

SMITH, V. R. Firm Foundations First. Canad. Pub. Health J. 34, 10:433 (Oct.), 1943.

Pleomorphic Rickettsiae—Twenty-four electron-micrographs of rickettsiae of epidemic typhus grown on chick-embryo constitute another step in our knowledge of these half-way organisms between bacterial and viral forms.

WEISS, L. J. Electron-micrographs of Rickettsiae of Typhus Fever. J. Immunol. 47, 5:353 (Nov.), 1943.

ASSOCIATION NEWS

Pan American Health Day Celebrated by the Committee on Professional Relations with Latin America

Commemorating Pan American Health Day, December 2, a "Health Charter for all the Americas" was dispatched to the capitals of all the American republics by the Association. Printed in English, Spanish, and Portuguese, and bearing the signature of Dr. Louis I. Dublin, Chairman of a newly appointed Committee to develop professional relations with Latin America, the Charter declared:

"We believe there are many ties that bind the Americas together beyond the accident of geography.

"High among these is the common purpose of the public health workers of all the Americas.

"United as we are in the timeless war against tyranny, so we unite now in the timeless war against disease, privation, and death.

"We unite to prevent the invasion of the Western Hemisphere by the plagues which ride behind the horsemen of war and famine.

"We unite to banish forever from our lands the diseases that have always been the heritage of mankind.

"We unite to fight malnutrition, ignorance, and all human misery.

"We unite in a scientific brotherhood of all the Americas to fight for that bright future possible only to happy, healthy peoples."

In a statement released to the Latin American press, Dr. Dublin stated that "the purpose of this committee is to encourage and develop in every practicable way cordial relations between workers in the field of public health in the United States and Canada and their colleagues in the Latin American countries. Especially at this time is it desirable to establish the closest ties of collaboration when the various countries of the North and South are engaged in a common effort to maintain the health standards of their people at high levels and to increase the common effort toward victory."

Dr. Ernest L. Stebbins, Health Commissioner of New York City (left) receiving a copy of the Health Charter from Dr. Dublin

Office of the Coördinator of Inter-American Affairs, 444 Madison Avenue, N.Y.C. 22

"The American Public Health Association," Dr. Dublin said, "has always been a clearing house for sound principles of health work. It has also served as a rallying point for closer personal relations within the profession. It hopes through its new committee to widen its sphere of influence to be equally useful in the Latin American countries. The committee proposes to explore the possibilities of an interchange not only of materials and information but also of professional workers to enable both parts of the hemisphere to share in the most recent public health practices and procedures."

"The Association through its Committee," Dr. Dublin declared, "dedicates itself toward these objectives and looks forward to increasing benefits to health work in both continents."

The members of the committee are:

Louis I. Dublin, Ph.D., *Chairman*, Third Vice-President and Statistician, Metropolitan Life Insurance Company, New York, N. Y.
Robert S. Breed, Ph.D., Chief, Division of Bacteriology, New York Agricultural Experiment Station, Geneva, N. Y.
Professor Gordon M. Fair, Professor of Sanitary Engineering, Harvard University, Cambridge, Mass.
Henry E. Meleney, M.D., Hermann M. Biggs Professor of Preventive Medicine, College of Medicine, New York University, New York, N. Y.
Nathan Sinai, Dr.P.H., Professor of Hygiene and Public Health, University of Michigan, Ann Arbor, Mich.
Ernest L. Stebbins, M.D., Commissioner of Health, New York, N. Y.
Clair E. Turner, Dr.P.H., Professor of Public Health, Massachusetts Institute of Technology, Cambridge, Mass.

The "Health Charter for all the Americas" was sent in duplicate with the request that the responsible health official in each country affix his signature to a copy and return it to the Association in New York as subscribing to its principles.

PROPOSED VITAL RECORDS ACT

The Executive Board of the American Public Health Association has approved the following resolution relative to the proposed Vital Records Act (S. 1096):

RESOLVED: That the Executive Board, on behalf of the American Public Health Association, hereby approves in principle U. S. Senate Bill 1096, subject to any improvement in the language which would clarify the purpose of the Bill and meet current objections, and which might be considered during the course of the forthcoming hearings.

APPLICANTS FOR MEMBERSHIP

The following individuals have applied for membership in the Association. They have requested affiliation with the sections indicated.

Health Officers Section

J. Shirley Hodges, M.D., 3800 University Park, Dallas, Tex., City of University Park Health Officer
Hernan San Martin-Ferrari, M.D., 615 N. Wolfe St., Baltimore, Md., Provincial Chief of Public Health Service of Antofagasta, Chile
Lester S. McLean, M.D., Vallejo Health Center, 228 Napa Rd., Vallejo, Calif., Director, Vallejo and Solano County Health Dept.
William A. Newton, M.D., 1149 Pearl St., Beaumont, Tex., Jefferson County Health Officer

Laboratory Section

Donald L. Augustine, Sc.D., Harvard Medical School, 25 Shattuck St., Boston, Mass., Assoc. Professor of Comparative Pathology and Tropical Medicine
Sgt. Beryl F. Capps, 37th General Hospital, APO 763, Postmaster, New York, N. Y., Bacteriologist
Gladys M. Craig, M.Sc., 170 East End Ave., New York, N. Y., Bacteriologist and Parasitologist, Doctors Hospital
Archibald M. Fitz-Randolph, 1618 A St., Portsmouth, Va., Asst. Sanitarian, U. S. Public Health Service

George E. Foley, 2 Primus Ave., Boston, Mass., Bacteriologist, House of Good Samaritan and Dept. of Preventive Medicine, Harvard Medical School

Frances J. Pain, 208 13th St., Pacific Grove, Calif., Junior Laboratory Asst., 9th S. C. Laboratory, Presidio of Monterey

Lt. Albert M. Reiss, Sn.C., Station Hospital, Mitchell Field, N. Y., Asst. Laboratory Chief and Asst. Base Sanitary Officer, U. S. Army

Lt. Joseph F. Ruiter, M.D.T.S., Lawson General Hospital, Atlanta, Ga., Instructor, Medical Dept., Technical School, Army of the U. S.

Major Leonard B. Solomon, M.C., 12th Hospital Center, Camp Gruber, Okla., Chief of Laboratory Service

Corp. Edward Stern, 967th Medical Hospital Ship Platoon, Camp Kilmer, N. J., Laboratory Technician

G. Fred Townsend, 905 W. Central Ave., Princeton, Ill., Asst. Chemist, Green River Ordinance Plant

Vital Statistics Section

Marian Champenois, 7325 St. Charles Ave., New Orleans, La., Tabulation Equipment Supervisor, U. S. Public Health Service

Andrew T. Court, 13-165 General Motors Bldg., Detroit, Mich., Employee Health Analyst, General Motors Corp.

Manuel F. Recao, Este 14, No. 12, Caracas, Venezuela, S. A.

Engineering Section

Jose F. Henrigues, Rua Otavio Correa, 95, Rio de Janeiro, Brazil, S. A., Engineer of Public Health, National Dept. of Public Health

Jose R. Leon, Williams 25, Santurce, Puerto Rico, Asst. Professor in Sanitary Engineering, School of Tropical Medicine

Abbot A. Sackheim, Room 720, Reisch Bldg., Springfield, Ill., Sanitary Engineer, State Dept. of Public Health

Industrial Hygiene Section

H. Irving Dunn, M.D., Station Hospital, Raritan Arsenal, Metuchen, N. J., Post Surgeon

Major Everett W. Probst, M.C., Picatinny Arsenal, Dover, N. J., Industrial Medical Officer and Surgeon, U. S. Army

Capt. Max N. Pusin, M.C., Co. "A", 91st Medical Gas Treatment Bn., Camp Livingston, La.

Jean E. Wolfson, M.D., 134 West 13th St., New York 11, N. Y., Health Officer in training, New York City Dept. of Health

Food and Nutrition Section

Louis C. Barail, M.D., D.D.S., 1415 Park Ave., U. S. Testing Co., Inc., Hoboken, N. J., Chief Bacteriologist

Dr. Emilio Messner, Rafael Pastoriza 1564, Montevideo, Uruguay, S. A.

Ruth C. Steinkamp, M.S., Vanderbilt University School of Medicine, Nashville 4, Tenn., Junior Nutrition Consultant, State Health Dept.

Maternal and Child Health Section

Eva F. Dodge, M.D., 501 Madison Ave., New York 22, N. Y., Obstetric Consultant and Assoc. Medical Director, Planned Parenthood Federation of America

Jerome L. Kohn, M.D., 50 West 96th St., New York 25, N. Y., Assoc. Pediatrician, Mt. Sinai Hospital

Public Health Education Section

Garnett M. Cooper, 247 Kimbrough St., Memphis, Tenn., Unit Supervisor, Tennessee Dept. of Public Welfare

Emily C. Keeffe, M.A., 1710 Prospect Ave., Cleveland, Ohio, Health Education Executive, Cleveland Y.W.C.A.

Lt. Col. Thomas T. Mackie, M.C., 6817 Georgia Ave., N.W., Washington, D. C., Exec. Officer, Tropical and Military Medicine, Army Medical School

Wade T. Searles, M.A., 82 N. High St., Columbus 15, Ohio, Field Representative, American Social Hygiene Assn.

Howard Strong, 1615 H. St., N.W., Chamber of Commerce of U. S., Washington 6, D. C., Special Representative, Health Advisory Council

Public Health Nursing Section

Martha P. Langley, 319 W. 8th St., Erie, Pa., Director, Visiting Nurse Assn.

Mrs. Cora Hoop Liere, R.N., 1210 Sheridan Drive, Danville, Ill., Director of Nurses, Child Welfare Assn.

Guillermina Rivera-Valles, R.N., Catholic Univ. Sch. of Nursing Education, Washington, D. C., Student

Epidemiology Section

Edward L. Benjamin, M.D., 2021 Grand Concourse, New York, N. Y., Epidemiologist and Borough Chief, Bureau of Preventable Diseases, City Dept. of Health

Sally C. Preas, 279 W. 12th St., New York 14, N. Y., Research Assistant, Milbank Memorial Fund

School Health Section

Howard S. Hoyman, M.A., Univ. of Oregon, Eugene, Ore., Assoc. Professor of Physical Education

Unaffiliated

Sigmund L. Friedman, M.D., 3411 Steuben Ave., New York 67, N. Y., Asst. Director, Montefiore Hospital

Brig. Gen. Morrison C. Stayer, Panama Canal Health Dept., Balboa Heights, Canal Zone, Chief Health Officer and Surgeon, Caribbean Defense Command

DECEASED MEMBERS

Walter W. Council, M.D., Juneau, Alaska, Elected Member 1933, Health Officers Section

W. Brownley Foster, M.D., Richmond, Va., Elected Member 1908, Elected Fellow 1925, Health Officers Section

Robert W. Kehr, Seattle, Wash., Elected Member 1934, Engineering Section

John Harvey Kellogg, M.D., Battle Creek, Mich., Elected Member 1878, Food and Nutrition Section

James R. McEachern, M.D., Tampa, Fla., Elected Member 1932, Elected Fellow 1936, Health Officers Section

J. F. Nickerson, Chicago, Ill., Elected Member 1912, Food and Nutrition Section

EMPLOYMENT SERVICE

The Association Employment Service seeks to bring to the attention of appointing officers the names of qualified public health personnel and to act as a clearinghouse on employment. This is a service of the Association conducted without expense to the employer or employee.

From the registry of persons available, selected announcements are published from time to time. Appointing officers may obtain lists of all registrants on request.

Address all correspondence to the Employment Service, American Public Health Association, 1790 Broadway, New York 19, N. Y.

POSITIONS AVAILABLE

Physician: public health pediatrics. To assist director of maternal and child health in large California county health department. Major duties, conducting of infant and preschool health conferences and school examinations. Beginning salary $350 and travel allowance. California license required. Training and experience in pediatrics or public health or both. Immediately available. Address William C. Buss, M.D., Kern County Health Department, Bakersfield, Calif.

Wanted: A physician trained in tuberculosis to assume administrative control of the Bureau of Tuberculosis in an eastern city of 200,000 population. Salary $3,900–$4,500 plus cost of living adjustment. Address **Box B**, Employment Service, A.P.H.A.

Sanitarian wanted: Preferably with Bachelor's degree or engineering degree, plus public health experience or training. Must have own car. Applicant with lower qualifications will be offered an opportunity to take a short, free indoctrination course. Salary $1,920 per year with travel allowance of $50 per month, if qualified. Apply Dist. Dept. of Health, No. 6, Central Office, Newberry, Mich., Dr. Franklin.

Wanted: Pediatrician to supervise medical care of children at cerebral palsy center being established by private institution in coöperation with Illinois Division of Services for Crippled Children. Salary commensurate with experience and training. For further information write Lawrence J. Linck, Director, Division of Services for Crippled Children, 1105 So. Sixth St., Springfield, Ill.

The Department of Health, New Jersey, whose industrial health activities have expanded rapidly during the present war, has announced its need for two full-time industrial hygiene physicians for its Industrial Hygiene Service. As one of the leading states in the production of war materials, New Jersey offers unusual opportunities for gaining experience in occupational disease control besides giving the physician a chance to make a valuable contribution to the war effort. The principal duties of the selected physicians will be consultations in regard to the following: control of occupational diseases; industrial toxicological problems; evaluation of adequacy of plant medical services; promotion of measures which will reduce absenteeism from non-occupational causes; and conduct of industrial health education activities. Physicians interested in these positions should write to the Department of Health, Trenton, N. J.

Merit System for Personnel Administration in Delaware will set examinations for 3 positions in the Delaware State Board of Health shortly. The positions open for examination, together with the beginning salaries, are: Deputy State (County) Health Officer ($3,800), Pediatrician ($3,600), and Medical Social Consultant ($2,400).

These examinations will be unassembled, but successful candidates will be expected to appear in Delaware for an oral interview which will be a weighted part of the examination. Appointments may be expected soon after the examinations are conducted.

Information and specifications as prepared for each position may be secured by communication with the Merit System Supervisor, P. O. Box 1911, Wilmington, Del., and application for examination must be made on the official form.

The Milwaukee Health Department is interested in obtaining an instructor in hospital nursing to conduct a student educational program in its communicable disease hospital. Salary offered begins at $125 per month with maintenance, and increases of $5 per month each year until $135 has been reached. To this basic salary there has been added a cost of living bonus of $30.64 per month, making the total beginning salary $155.64 plus maintenance. Apply to Dr. G. F. Burgardt, Deputy Commissioner of Health, Milwaukee, Wis.

Wanted: Public health physicians in Texas. George W. Cox, M.D., State Health Officer, Austin, Tex.

Wanted: Public health statistician for large California County Health Department. College degree with training in statistics. Salary $200. Position open. Address William C. Buss, M.D., Kern County Health Dept., Bakersfield, Calif.

Hawaiian Territorial Board of Health seeks trained engineer to supervise rodent plague control program. Salary range from $331.67 to $398.33 per month subject to retirement deductions plus bonus. Position under Territorial civil service system with classification of P-4. For further details address A.P.H.A. Employment Service.

Wanted: Physical therapist by crippled Children's Division. Should be graduate of a school of nursing or of college, with a major in physical education or science; have completed a course in physical therapy; should have had experience in physical therapy, preferably with children. Write for application blank to Merit System Council, 416 Henry Building, 309 S.W. 4th Ave., Portland 4, Oregon.

Psychiatric case worker desired for mental hygiene clinic, Department of Health, Peoria, Ill.

Senior Sanitarian, Alaska Health Department. Minimum requirements 2 years college, 6 months public health course, 2 years' experience. Two additional years' experience acceptable instead of each year college. Monthly salary $235–$265. Mary B. Pool, Alaska Merit System, Juneau.

Michigan announces civil service positions now open for orthopedic public health nurse, Grades II and III classes with the Michigan Crippled Children's Commission. Salary range: Grade II $230 to $270 per month; Grade III $280 to $340 per month. Grade II not under 23, Grade III not under 25. Must have completed course in orthopedic nursing or physical therapy in approved school. For Grade III position a full-time course of at least 9 months' duration is required. Must have 3 years' experience in public health nursing, one year of which shall have been in supervisory capacity. For Grade III position one additional year of nursing and one additional year of supervisory experience required. Eligibility for certificate in public health nursing and registration as a nurse in Michigan. For further information write Michigan Civil Service Commission, 310 No. Grand Ave., Lansing 4, Mich.

Industrial Hygiene Toxicologist. Calls for person of chemical or chemical engineering background. Position, supervising of chemical work of industrial hygiene service and industrial hygiene laboratory; designing special apparatus for field studies on occupational disease problems; conducting field and laboratory analyses of toxicological exposures in industry; keeping records, interpreting results and preparing records. Requirements, knowledge of chemical laboratory methods and equipment; procedures for qualitative and quantitative analysis of organic and inorganic chemistry; knowledge of chemical methods of determining toxic materials in industry; familiarity with petrographic methods of mineralogical analysis. Immediate temporary appointment will be made, to be followed later by civil service examination to determine permanent status. Salary $2,900 base, plus $100 a year war adjustment, or total of $3,000 per year. Travel expenses also allowed. Must be U. S. citizen. Resident of any state may apply. Write J. Lynn Mahaffey, M.D., Director of Health, State Department of Health, Trenton 7, N. J.

Vacancies in the Illinois State Department of Public Health will be filled from the eligible registers resulting from Civil Service examinations now on call for Bacteriologist, Laboratory Technicians and Serologists. January 14 is the last day for the receipt of applications in the Illinois Civil Service office, Room 501, Armory, Springfield.

Salary ranges for these positions are—Bacteriologist I, $150–$190 per month; Bacteriologist II, $180–$225 per month; Bacteriologist III, $180–$225 per month; Bacteriologist IV, $300–$375 per month; Laboratory Helper, $100–$125 per month; Laboratory Technician I, $110–$140 per month; Laboratory Technician II, $130–$170 per month; Serologist I, $150–$190 per month; Serologist II, $180–$225 per month. Applicants must be legal residents of Illinois.

Persons now accepting employment in the Illinois State Service have the advantage of a "career service" system, whereby persons with the minimum of training and experience can enter the beginning positions and through service ratings and promotional examinations can advance to top positions in the field. An additional inducement to attract qualified employees is the newly enacted pension plan offering retirement and disability benefits to all state employees.

The examination will be given at various centers throughout the state immediately after the closing date, January 14.

Application blanks, position descrip-

tions and qualifications required can be obtained by writing to the Illinois State Civil Service Commission, Room 501, Armory, Springfield, Ill.

Wanted: Sanitary engineer or chemist to assist in stream pollution survey and later in study of sewage treatment. Should be qualified to perform chemical and bacteriological analyses of water and sewage and chemical analyses of industrial wastes. Nine months employment beginning as near January 1 as possible, with possibility of indefinite continuation, particularly if person is willing to do some other types of analytical work, including coal analysis. Salary $175–$250 per month depending on qualifications. Women considered. Address communications to Prof. Gilbert H. Dunstan, Dept. of Sanitary and Public Health Engineering, University of Alabama, Box 1996, University, Ala.

Wanted: Senior assistant serologists for immediate employment in New Mexico Public Health Laboratory, Albuquerque. Bachelor of Science degree and 1 year experience as serologic assistant in laboratory of recognized standing required. Starting salary $145 per month. Women or draft exempt men preferred. Address Dept. of Public Health, Box 711, Santa Fe, N. M.

Wanted: Public Health Nurse. Salary $175 per month and full maintenance, plus $25 per month for car expense. Must furnish own car. Write Paul D. Crimm, M.D., Director Boehne Tuberculosis Hospital, Evansville 12, Ind.

City of 70,000, southeastern U. S., seeks qualified health commissioner between the ages of 30 and 45, draft exempt. Salary $4,500 plus auto allowance of $300 per year. **Box V**, Employment Service, A.P.H.A.

FOR OTHER POSITIONS AVAILABLE WRITE EMPLOYMENT SERVICE, AMERICAN PUBLIC HEALTH ASSOCIATION, 1790 BROADWAY, NEW YORK 19, N. Y.

In view of the current active demand for trained and experienced persons in public health, it is suggested that prospective employers communicate directly with the Employment Service, American Public Health Association, 1790 Broadway, New York 19, N. Y., for up-to-date lists of applicants.

POSITIONS WANTED

Administrative

Physician, age 37, M.D. Iowa, Dr.P.H. Harvard, specializing in tuberculosis, seeks position as medical director of a sanatorium or a state bureau of tuberculosis. Exempt from military service. **A-476**

Physician, M.D. Yale, with private practice industrial medicine. Age 39 and draft exempt. Seeks opportunity as public health physician. **A-505**

Physician, age 28, M.D. Yale, trained in pediatrics, now county health officer of southern state, seeks administrative position in northeastern United States. **A-509**

Woman physician, age 35, M.D. University of Minnesota, 2 years' experience as county health officer, seeks clinical or administrative position, preferably South. **A-510**

Woman physician, well prepared in pediatrics. M.S.P.H. DeLamar Institute, Columbia University 1943, seeks employment in field of maternal and child health, preferably administrative in pediatrics. Excellent references. **A-507**

Physician, M.D. University of Arkansas, M.P.H. Harvard, experienced as county health officer. Age 35. Will consider position as county or city health officer or director of a bureau. **A-506**

Health Education

Woman with background of health education and public health nursing, experienced as teacher, supervisor, and writer, seeks teaching position of responsibility. **H-507**

Laboratory

Research bacteriologist. Unusually trained and experienced woman bacteriologist and serologist now occupying responsible position in state laboratory seeks research work of permanent character. **L-468**

Water chemist, bacteriologist, M.S. degree in Sanitary Chemistry. Age 36, draft exempt. Eight years' experience in state laboratory working on water, milk and sewage. Prefers Midwest or Pacific Northwest location. **L-469**

Miscellaneous

Public Health Nurse. B.S. in nursing, William and Mary College, age 53, seeks position as coördinator of public health nursing, educational director, or director student nurse public health program. Preference as to location Middle Atlantic States. **M-452**

NEWS FROM THE FIELD

New School of Public Health Building, University of Michigan

University of Michigan School of Public Health

The new building housing the School of Public Health, University of Michigan, Ann Arbor, is now in use for students. The quarters assigned to the several departments were occupied during the late summer and early fall months. According to the Michigan Alumnus, this building was built and equipped at a cost of three-quarters of a million dollars as a gift to the University of Michigan from the W. K. Kellogg Foundation and the Rockefeller Foundation. An additional grant was made from the National Foundation for Infantile Paralysis in view of the large amount of work expected to be done by the school in the study of this disease.

The Regents of the University of Michigan created the School of Public Health in 1941 from the Division of Hygiene and Public Health which has been organized as such since 1921. Henry F. Vaughan, Dr.P.H., son of the late Dean Victor C. Vaughan of the Medical School, was named the first Dean of the new school. The faculty has been assembled from a nucleus of the teaching staff of the former Division.

"Research holds a coördinate position with teaching in the operation of Michigan's School of Public Health. This is revealed most persuasively in the floor plans. Whole wings are given over to the needs of the researchers and their staffs. The presence of animal rooms reveals to the visitor forcibly that in this building scientists are studying and experimenting."

Among the features of the school are continuation study courses, including a plan for continued education through

short courses for individuals employed in public health services, physicians and dentists in private practice, and other professional groups with a major interest in health science services. Courses are also offered to milk plant operators, hotel and restaurant managers concerned with food handling, well drillers, plumbers, and the various occupations connected with industrial activity. Other courses are provided for public officials whose responsibilities involve health problems, such as county supervisors, health board members, school officials, public works and service officials, probate judges, etc. A recent course included study in industrial hygiene for plant safety personnel.

A feature of the fall program included a 4 day conference of teachers of public health from all parts of North and South America which was called for the purpose of working out exchange relationships between the countries and between universities specializing in this field.

SUPPLY OF PENICILLIN

Because of numerous requests received by the Army for penicillin, Surgeon General Normal T. Kirk of the Army Medical Department has explained that the War Department "at no time has either controlled penicillin or received the entire output." The Army's position with regard to penicillin supply is exactly the same as that of the Navy, U. S. Public Health Service, and the Office of Scientific Research and Development, each of which receives a monthly allocation of penicillin from the War Production Board. General Kirk also explained that the penicillin allocated to the Army Medical Department is intended for the treatment of military personnel and "none of it can be reallocated or released to civilians."

Penicillin is a new drug which is being tried out in Army, Navy, and civilian hospitals in the treatment of serious types of infections which will not respond to sulfa drugs. The supply of penicillin is limited and distribution is controlled by WPB. This month, according to WPB, the Army will receive 56 per cent of the total supply, the Navy 18 per cent, U. S. Public Health Service (for the treatment of Coast Guard and Merchant Marine personnel) 2 per cent, the Office of Scientific Research (for civilians) approximately 15 per cent, and the remainder to the scientific staffs of drug companies for their own research.

Though production of the drug is steadily increasing, at present none of the agencies, including the military, receives as much as it needs. Its distribution among military and naval personnel is determined by the Army, Navy, and the U. S. Public Health Service. Distribution of the part allocated to civilians is for clinical research and its assignment is determined by a committee headed by Dr. Chester S. Keefer, Evans Memorial Hospital, Boston. Since the amount of penicillin requested by civilians greatly exceeds the available supply, it has been determined by the Office of Scientific Research and Development that civilian requests must be made through their doctors who should communicate with Dr. Keefer by telephone, telegram, or personal letter giving complete details of the case so that he may have an adequate basis for his decision.

NATIONAL SOCIAL HYGIENE DAY, FEBRUARY 2, 1944

The American Social Hygiene Association, New York, N. Y., has announced that it will again sponsor National Social Hygiene Day as an occasion in many communities for intensifying the year-round campaign against venereal diseases and conditions favorable to their spread. Dr. Walter C. Clarke, Executive Director of the As-

sociation, has announced that united community action against venereal disease is the theme of the plans made for February 2. Interested individuals and groups may obtain full details by writing to the American Social Hygiene Association, 1790 Broadway, New York 19, N. Y.

PUBLIC HEALTH FEATURES OF THE UNITED NATIONS RELIEF AND REHABILITATION ADMINISTRATION

The public press has carried recently extensive accounts of the meetings of the Council of the United Nations Relief and Rehabilitation Administration in Washington and Atlantic City. A summary of some of the features especially relating to health is presented herewith. The *Journal* is grateful to Selskar M. Gunn who was in attendance at the sessions of the Council and who has indicated the areas of special interest to health workers.

The Sub-Committee on Policies with Respect to Medical Care has been under the chairmanship of Thomas Parran, M.D., Surgeon General of the U. S. Public Health Service. This subcommittee belongs to Committee IV, the Committee on Relief and Rehabilitation Policies, of which the Chairman is Dr. Tingfu F. Tsiang of China.

The terms of reference of this committee are set forth in the UNRRA agreement as follows:

". . . that immediately upon the liberation of any area by the armed forces of the United Nations or as a consequence of the retreat of the enemy, the population thereof shall receive aid and relief from their sufferings, food, clothing and shelter, aid in the prevention of pestilence and in the recovery of the health of the people, and that preparation and arrangements shall be made for the return of prisoners and exiles to their homes and for assistance in the resumption of urgently needed agricultural and industrial production and the restoration of essential services."

The significant features of the approved resolution relating to health and medical care include the following:

1. A recommendation that governments provide for the notification of diseases likely to become epidemic and for uniformity in quarantine regulations and other measures of prevention.

2. It is recommended that governments, when requested by the UNRRA administration, offer facilities in making available suitable personnel for a health organization, including the temporary loan of technical experts and the services of scientific institutions.

3. It is recommended that there be the closest collaboration between the UNRRA administration and the Allied military authorities with reference to the notification of infectious diseases and to the orderly transfer to the administration of epidemic control and other public health measures put into operation by the military authorities.

4. It is recommended that governments, when requested by the UNRRA administration, facilitate in every way the assignment of their nationals from the occupied countries for technical training, especially in the newer aspects of medical and sanitary sciences.

Scope of the Health Work of UNRRA

1. Health work will necessarily constitute one of the primary and fundamental responsibilities of UNRRA.

2. This program is to consist chiefly of the provision of assistance to governments in the rapid reëstablishment of their health services generally, preventive and curative. These services include not only disease control and relief from malnutrition but the reestablishment of medical services, hospitals, dispensaries, sanatoria, health centers, laboratories, environmental sanitation, maternity and child welfare services, control of endemic diseases, particularly tuberculosis and venereal diseases, and other essentials for health. UNRRA should be prepared to give assistance with equipment and supplies, personnel, expert advice, facilities for technical training and the collection and dissemination of information bearing on the above problems.

3. One of the aims of UNRRA should be to equalize opportunity for the restoration of health in the various countries. This will involve a sharing of responsibilities and equitable distribution of goods and other assistance in proportion to need and in accordance with a coördinated plan.

4. In view of the obvious importance of dealing rapidly with epidemics, it is essential

that the health organization have at its immediate disposal trained personnel and material.

5. The health organization may be called upon to provide for the loan of experts to various countries, particularly in cases where diseases have been introduced for the first time as a result of the war and with the control of which neither the national health authority nor the local practitioners are familiar.

6. The medical aspects of nutrition will constitute one of the chief preoccupations of the health organization which will be urgently concerned with the provision of nutritional standards adequate for the maintenance of health in the territories in which it operates.

7. The health organization will play an extremely important part in the health supervision and control of returning displaced persons.

8. The special health needs of children and expectant and nursing mothers must be given early recognition by the health organization. The health organization may also be called upon to assist in dealing with the conditions of anxiety, fear and emotional disturbance which will have arisen in peculiarly great frequency among the children and youths of occupied territory.

9. A constant objective of the health program should be to demonstrate the effectiveness and need of international collaboration in public health. In so doing it will facilitate the later development of a permanent world-wide health organization.

10. Whenever possible the national and local health services should be the channels through which the health work of relief and rehabilitation operations are carried out and it should be a constant objective to assist in strengthening these services.

11. A special section in the health organization for epidemiological control is suggested in order to promote collaboration between member governments in the control of epidemic diseases.

12. Coöperation with existing governmental health agencies should be fostered.

13. The wide experience and good will of the non-governmental health agencies should be utilized to the utmost as it is clear that the full participation of all such agencies may well be needed. In accordance with the terms of the agreement, plans and policies should be developed whereby the resources of such organizations may be used effectively in those health aspects of relief and rehabilitation to which they have special relationship.

14. The reëstablishment of health being one of the principal objects of relief work, it is essential that the status of the health organization should be commensurate with its importance in the work of the whole administration. It is a recognized principle of administration that all work of a technical character be carried out under technical direction. In view of the fact that almost every aspect of the work of UNRRA will necessarily have health implications (programming, supplies, personnel, training, coöperation with governments, field operations, etc.), the director of health must be afforded a position in the administration which will enable him under the authority of the Director General to develop suitable policies and to exercise proper technical direction over all health aspects of the work of UNRRA.

15. The health organization should consist of a director of health and a technical and administrative staff, a standing technical committee on health which would be advisory to the Council, to the Central Committee, and to the Medical Director, and the necessary regional organization. Experience has shown that a considerable degree of decentralization is desirable in health administration, so that strong regional organizations will be needed in areas such as Europe and the Far East.

16. The director of health should be accorded a position in the administration which will enable him under the authority of the Director General to direct suitable policies and to exercise proper technical direction over all health aspects of UNRRA. He will be directly concerned in all major policy and administrative decisions in which health, medical or nutrition problems are involved. It follows that the status and success of UNRRA from the health point of view depend upon obtaining the services of a director of health of the highest possible professional standing, whose previous work is such as to command the respect of those qualified to judge, both from a technical and administrative point of view. A regional health director should be appointed to each regional organization with a position relatively similar to that provided for the director of health.

17. The greatest care will be required in selecting health personnel for field work in the various countries. Technical competence is fundamental, but almost equally important is the ability to work in a team with others of different nationality, as the staff will necessarily include health personnel from a number of countries. This qualification is of primary importance for members of the staff required to work away from headquarters, for they must be able to understand the out-

look of the people among whom they are called upon to work. In comparison with this qualification, a knowledge of languages, though a valuable assets, is of secondary importance.

18. It is impossible to anticipate what types of individual or special missions may be required. Requests may come for highly technical assistance in almost any branch of medical or sanitary science, particularly in view of the isolation of many of the experts of these nations during the years of war. UNRRA should collect information regarding individual experts and expert teams which might be made available for service in the field should the occasion arise.

19. A standing technical committee on health should be appointed, as provided for in the agreement. The members should be limited to between 9 and 15. It is urged that members of the committee should have as alternates persons technically capable of aiding in the delibrations of the committee.

20. In view of the highly technical character of the health work of UNRRA it will be essential to have authority to appoint expert commissions. The members of these commissions should be nominated as individuals solely on the ground of their special knowledge of the subject concerned. As members of expert commissions speak as individuals only, there is no necessity to make any such commission even approximately representative of a number of countries.

21. Expert commissions on nutrition will be required in view of the wide differences obtaining in the food habits and nutritional status between various parts of the world. The director of health should be able to summon either centrally or regionally conferences of directors of national public health services whenever practicable and desirable.

22. Among the tasks calling for immediate action is the obtaining of medical literature dealing with the progress of medicine and hygiene during the years of war for the liberated countries.

23. Even though it may not be possible for UNRRA to meet all the relief and rehabilitation needs of the populations affected by the war, nevertheless by approaching the tasks through the wise use of the technical resources of the United Nations, mobilized and engaged in the same spirit of coöperation as they are now devoting to the prosecution of the war, it should be possible, in the public health sphere, to attain comparable success in the war against disease and for the restoration of health.

The personnel of the Sub-Committee on Policy with Respect to Health and Medical Care at the time of the conference was as follows: *Chairman*, Thomas Parran, M.D., United States; Mr. Sitsen, Netherlands, alternates Dr. W. M. Bonne and Dr. J. A. F. van den Belt; Dr. Galtung Hansen, Norway, alternate Dr. Nicolaysen; Ricardo A. Morales, Panama, alternate Narciso E. Garay; Dr. Celso R. Velazquez, Paraguay, alternate Dr. Paris E. Menendez; Juan Chavez, Peru, alternate Julio Balbuena; J. M. Elizalde, Philippines, alternate Dr. A. B. Rotor; Prof. B. Nowakowski, Poland, alternates Dr. Artur Lejwa and Dr. Alexander Rytel; A. T. Brennan, Union of South Africa, alternate R. Webster; Dr. V. Lebedenko, Union of Soviet Socialist Republics; Dr. Melville Mackenzie, United Kingdom; Dr. Leo Rabinovitch, Yugoslavia, alternate George Radin. Representing the Director General, Frank G. Boudreau, M.D., alternate Selskar M. Gunn.

LABORATORY EQUIPMENT CONTROL EASED

Control over the distribution of laboratory equipment has been eased by WPB through issuance of Order L-144 as amended. Authorization of purchase orders for the following items, designated "List A," is still mandatory, except in the case of distributors' purchase orders; Analytical balances (sensitivity 1/5 mg. or more sensitive); Calorimeters; Centrifuges; Hydrogen ion meters (electrometric); Metalloscopes; Microscopes (except Brinnel and Tool Makers); Microtomes; Potentiometers, Wheatstone Bridges and Resistance Boxes; Refractometers; Spectrographs, spectroscopes, spectrometers and spectrophotometers; Vacuum pumps (1 micron or higher vacuum).

No authorization is now required for items not on list A, as the amended order removes former additional restrictions on deliveries. These prohibited the filling of purchase orders for items

having a value of $50 or more, for quantities of the same item aggregating $50 or more, or for quantities of items aggregating $200 or more, except upon specific WPB authorization, or for delivery to the Army or Navy, serial-numbered laboratories, and distributors.

The amended order also:

1. Puts distributors located in Canada on the same basis as those located in the United States, its territories and possessions.
2. Revises List A by removing several items formerly included and by using specific names of instruments in all cases.
3. Makes clear that List A does not include secondhand equipment or parts for maintenance and repair of existing equipment, and that the list applies only to items designed primarily for use in laboratories.

SEATTLE PLANS POST-WAR HEALTH BUILDING

Ragnar T. Westman, M.D., Acting Commissioner of Health of Seattle, Wash., has announced that the city is making post-war building plans for the erection of a new public health building to house all divisions of the Department of Health and Sanitation and that it is first on the list of proposals.

Dr. Westman would be glad to correspond with health officers of other cities who are making similar plans for the post-war period.

UNIFORM ACT ON PUBLIC HEALTH UNITS

The Conference of Commissioners on Uniform State Laws has authorized the Chairman of its Public Law Acts Section to draft a uniform act on Public Health Units for the guidance of state legislatures drafting public health legislation. At the present time many states do not have legislation permitting, and indeed some have legislation prohibiting, city-county or multi-county full-time local health units. The model law being drafted by the Conference will be designed to facilitate state action on a substantially uniform basis in organizing units of local health service suitable in size, area, and other characteristics both to justify and support an adequate and well rounded professional supervisory and field staff. The Conference, in drafting this law, is acting upon the request of the APHA Subcommittee on Local Health Units. The Chairman of the Public Law Acts Section who is drafting this legislation is Robert K. Bell, an attorney of Ocean City, N. J.

AMERICAN SOCIETY FOR THE CONTROL OF CANCER APPOINTS EXECUTIVE

J. Louis Neff of East Williston, Long Island, N. Y., has been appointed Executive Director of the American Society for the Control of Cancer, New York, effective January 1. Since 1923 Mr. Neff has been Executive Secretary of the Nassau County, N. Y., Medical Society and Secretary of the Nassau County Cancer Committee since 1928. Mr. Neff is a member of the Section Council of the Public Health Education Section, and a Fellow of the A.P.H.A.

MICHIGAN PUBLIC HEALTH ASSOCIATION ELECTS OFFICERS

At the Annual Business Meeting of the Michigan Public Health Association held in Grand Rapids on November 4, the following officers were elected:

President—John M. Hepler, C.E., Lansing
President-Elect—Nathan Sinai, Dr.P.H., Ann Arbor
Vice-President—Hugh Robins, M.D., Marshall
Secy. Treasurer—Marjorie Delavan, Lansing
Representative on Governing Council of A.P.H.A.—Emilie G. Sargent, R.N., Detroit
Directors—Joseph G. Molner, M.D., Detroit, 1946 (At Large); Percy M. Phelps, Grand Rapids, 1946 (Representing the Michigan Association of Sanitarians)

This was the 23rd Annual Public Health Conference held by the Michigan Public Health Association and 605 persons were registered from all sections of the state. The emphasis was on group discussion of urgent problems. A half-day meeting of the Michi-

gan School Health Association followed the adjournment of the public health conference.

PAN AMERICAN HEALTH DAY ESSAY CONTEST

Dr. Hugh S. Cumming, the Director of the Pan American Sanitary Bureau, Washington, has recently announced, in connection with Pan American Health Day, that there would be held an essay contest for high school students to encourage thought about the value of health and of international coöperation in health matters. The prizes, offered by the Lily Tulip Cup Corporation, will consist of $75, $50, and $25 War Bonds. The theme of the essay is to be "What My Country Has Contributed to International Health Coöperation or Knowledge in the Field of Water, Food and Beverage Sanitation." The essays, which are limited to 2,000 words, must be received by the Pan American Sanitary Bureau not later than May 31, 1944, and the contest is open to students in the 11th and 12th grades of high school. Further information can be obtained from the Pan American Sanitary Bureau, Washington 6, D. C.

CENTER FOR THE DEVELOPMENT OF PHYSICAL MEDICINE

The National Foundation for Infantile Paralysis, Inc., has announced a grant to the Graduate School of Medicine of the University of Pennsylvania, Philadelphia, totaling $150,000 for a 5 year period for the establishment of what is said to be "the first center for the scientific study and development of physical medicine as a branch of medical practice."

According to Basil O'Connor, President of the Foundation, this represents a continuation of the interest which the Foundation has had in the part which physical medicine can play in the treatment of infantile paralysis. More than $350,000 has been spent during the past 6 years to educate and train physical therapy technicians. An additional $364,000 has been granted for the study of problems in physiology and medicine bearing on physical therapy. The Departments of Anatomy, Physiology, Pathology, and other basic sciences of the University of Pennsylvania will coöperate in this program which will be under the general direction of Dr. Robin C. Buerki, Dean of the Graduate School of Medicine.

SOUTH CAROLINA PUBLIC HEALTH ASSOCIATION

At a recent meeting, the South Carolina Public Health Association elected the following officers to serve for the coming year:

President—G. S. T. Peeples, M.D., Columbia
1st Vice-President—Lavinia Baskin, R.N., Moncks Corner
2nd Vice-President—C. G. Leonard, Spartanburg
Secretary-Treasurer—Mrs. Frank George, R.N., Columbia

DR. J. H. KELLOGG DIES, A.P.H.A.'S OLDEST MEMBER

John Harvey Kellogg, M.D., of Battle Creek, Mich., died on December 14 after a brief illness, at the age of 91. For many years Dr. Kellogg was Director of the Battle Creek Sanitarium where he developed many routines for what he called "biologic living."

Dr. Kellogg joined the American Public Health Association in 1878 and recently completed 65 years of continuous membership, the longest on record. He is believed also to have been the oldest member of the Association. A certificate for long membership in the American Public Health Association was given to Dr. Kellogg in 1936 when the Association met in New Orleans.

Active up to the last, Dr. Kellogg maintained his interest in diet and in efforts to avoid what he believed to be a serious racial deterioration as the result of unhygienic living.

TEXAS WATER WORKS AND SEWERAGE SHORT SCHOOL

The 26th Annual Texas Water Works and Sewerage Short School will be held at Texas A. & M. College, College Station, Tex., January 31–February 2.

The three full days will be devoted to discussions on such important topics as recent developments in priorities, the function of the Office of War Utilities, use of idle equipment, man power problems, post-war planning, the U. S. Public Health Service Standards for drinking water, water supply security, in-service training of water and sewage plant operators, the latest developments in the relation of poliomyelitis transmission and sewage, as well as the relation of Army and Navy standards to the operation of municipal utilities, and new developments in the various fields.

KANSAS CITY-WYANDOTTE COUNTY PROGRAM

Wyandotte County recently consolidated with the City of Kansas City, Kan., in a joint health program under the Direction of William H. Pickett, M.D., Surg. (R), U. S. Public Health Service. The consolidated health unit also has a Health Center building now housing the entire department. The Health Center was provided through a Lanham Act project under the Federal Works Agency. Building and remodeling, as well as much new equipment, were provided by the project.

PERSONALS

Central States

ERNEST J. BECKNER, M.D.,† of Pratt, Kans., has been appointed Health Officer of Butler County, succeeding SAMUEL N. MALLISON, M.D.†

VERNON P. CROCKETT, Assistant Engineer, U. S. Public Health Service (R), has been assigned to the Kansas City (Kan.)-Wyandotte County Health Department to have charge of Public Health Engineering.

LUNSFORD D. FRICKS, M.D., D.P.H.,* has resigned as Health Officer of Helena and Lewis and Clark County, Mont., because of poor health. His resignation was effective August 31.

E. K. MUSSON, M.D., M.P.H.,* is on leave from his position as Chief Medical Officer of the Chicago Health Department, Chicago, Ill., and has been commissioned Senior Surgeon in the U. S. Public Health Service Reserve and assigned to the Chief Medical Officer, Office of Foreign Relief and Rehabilitation Operations. Dr. Musson has been ordered to the School of Military Government, Charlottesville, Va., for three months' training, after which he presumably will be assigned abroad.

Eastern States

LEON A. BEARDSLEY, M.D., of Ithaca, N. Y., has been appointed Health Officer of Caldwell, Lyon and Crittenden Counties, Ky., effective August 24.

LEVERETT D. BRISTOL, M.D., DR.P.H.,* formerly Health Director of the American Telephone and Telegraph Company, New York, N. Y., has been appointed Executive Director of the Hospital Council of Greater New York.

LT. BERNARD D. DAITZ, SN.C., A.U.S.,† is now serving with the Allied Commission, formerly AMGOT. His address is 2675 Regiment, A.P.O. 512, New York, N. Y.

MAJOR GENERAL JAMES CARRE MAGEE, Medical Corps, United States Army, retired, has been named Executive Officer of the information service of the Division of Medical Sciences of the National Research Council. This service has been established by the

* Fellow A.P.H.A.
† Member A.P.H.A.

Council under the recent grant of the Johnson & Johnson Research Foundation of New Brunswick, N. J.

MARION I. MURPHY, R.N., who for several years has been Director of Nursing in the Cattaraugus County Department of Health, Olean, N. Y., resigned, effective November 25, to accept a position as Assistant Director in the Bureau of Public Health Nursing in the Michigan State Department of Health, Lansing.

MARGUERITE PRINDIVILLE, R.N., who has been Director of the Eastchester Public Health Nursing Organization, Tuckahoe, N. Y., has resigned to accept the position as Director of the Seattle Visiting Nurse Service, Seattle, Wash. Miss Prindiville will participate in an amalgamated program with the Seattle Department of Health and Sanitation. It is expected that she will later become Director of the new Division of Public Health Nursing in the Department of Health.

Southern States

GUY B. ANDERSON, M.D.,† of Ellicott City, Md., has resigned as Health Officer of Howard County.

EDWARD M. BARNES, M.D., formerly of Tampa, Fla., is the Director of Health of the new Health Department established in Galveston County, with headquarters in LaMarque, Tex.

E. R. COFFEY, M.D.,* of the staff of the U. S. Public Health Service, who for some years has served as Assistant Surgeon General in charge of the Division of Sanitary Reports and Statistics, Washington, has been appointed Director of District No. 1 for the Service with headquarters in New York. Dr. Coffey was formerly State Health Officer of Washington.

NAOMI DEUTSCH, R.N.,* formerly in charge of the Nursing Service of the U. S. Children's Bureau, has arrived in Managua, Nicaragua, to give a series of lectures and demonstrations in connection with poliomyelitis, according to the press on December 1.

CHARLES C. HEDGES, M.D.,* who since May 1, 1939, has been Health Officer of Savannah and Chatham County, Ga., has resigned to become Medical Director of the Vallejo Community Hospital, Vallejo, Calif. Dr. Hedges has been succeeded by CLAIR A. HENDERSON, M.D., who has been Commissioner of Health of Augusta, Ga., and Richmond County.

ELLSWORTH H. JOHN, M.D., of Brownsville, Ky., has been appointed in charge of tri-county health unit of Meade, Breckinridge and Hancock Counties, with offices in Hardinsburg.

HENRY R. O'BRIEN, M.D., M.P.H.,* is on active duty as Senior Surgeon (R) in the U. S. Public Health Service, assigned to the Office of Foreign Relief and Rehabilitation Operations, and detailed to the School of Military Government at Charlottesville, Va. Dr. O'Brien has resigned as chief of the Division of Local Health Administration in the Connecticut State Department of Health, Hartford.

Western States

BEVERLY C. BOOTH † has resigned as Sanitarian in the El Paso County Health Unit, Colorado Springs, Colo., and has accepted a position as Public Health Engineer in the Division of Sanitary Engineering, South Dakota State Board of Health, Pierre. GLEN J. HOPKINS † is the Director of the Division.

FRED T. FOARD, M.D.,* Surgeon, U. S. Public Health Service, has been

* Fellow A.P.H.A.
† Member A.P.H.A.

assigned as Medical Director for the Western district of the U. S. Public Health Service, which includes the states of Idaho, Utah, New Mexico, Colorado, and Texas, with central headquarters in Denver.

H. L. NEWCOMBE, M.D., has resigned as Director of the Health Unit of Kootenai County, Idaho, as of November 1.

RUTH R. PUFFER, DR.P.H.,* of the State Health Department, Nashville, Tenn., is the new Secretary of the Vital Statistics Section of the American Public Health Association. Dr. Puffer has the distinction of being the first woman to receive the degree of Doctor of Public Health from the Harvard School of Public Health, and the first non-medical person to receive it.

EMMETT E. SAPPINGTON, M.D., recently of the staff of the City-County Department of Health, San Francisco, Calif., has been appointed Senior Surgeon (R), U. S. Public Health Service and assigned to the Office of Foreign Relief and Rehabilitation Operations and is attending the School of Military Government in Charlottesville, Va.

GEORGE RITTER SMITH, M.D., formerly of Blackfoot, Ida., has been appointed

(Continued on page XXVIII)

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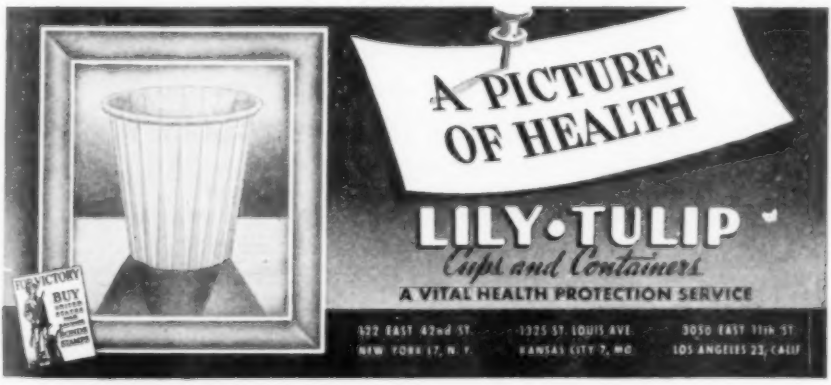
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Director of the Idaho State Department of Public Health, Boise. Dr. Smith is a graduate of Creighton Medical College in 1909, and has been identified with the Idaho State Hospital at Blackfoot.

Death

ALICE AHERN,† Ottawa, Ont., Assistant Superintendent of Nursing of the Metropolitan Life Insurance Company in Canada, died November 24.

* Fellow A.P.H.A.
† Member A.P.H.A.

CONFERENCES AND DATES

American Association of Schools of Social Work. Indianapolis, Ind. January 27–29.
American Society of Heating and Ventilating Engineers—50th Anniversity Meeting, New York, N. Y. January 31–February 2.
American Water Works Association
New York Section—Hotel Commodore, New York, N. Y. January 18.
Minnesota Section—Lowry Hotel, St. Paul, Minn. March 13–17.
Michigan Section—Otsego Hotel, Jackson, Mich. April 26–28.
New York Section—Hotel Utica, Utica, N. Y. April 27–28.
Annual Forum on Allergy. St. Louis, Mo. January 22–23.
National Fire Protection Association. Philadelphia, Pa. May 8–11.
National Restaurant Week. May 8–14.
Social Hygiene Day—American Social Hygiene Association. February 2.

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